AA0043443

AUTHORS: Golov, V. G.; Kuznetsova, L. V.; Fel'dshteyn, I. B.; Zatsepina, M. B.; Strigina, G. A.

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19761784

3/3

1/2 016 UNCLASSIFIED PROCESSING DATE--30OCT70

TITLE--THE INFLUENCE OF THE TYPE OF VULCANIZING SYSTEM ON THE EFFECTIVENESS OF THE PROTECTIVE ACTION OF STABILIZERS -U-

AUTHOR-(02)-VINOGRADOVA, T.N., FELOSHTEYN, M.S.

COUNTRY OF INFO--USSR

SOURCE--KAUCH. REZINA 1970, 29(2), 17-19

DATE PUBLISHED--------70

SUBJECT AREAS--MATERIALS

TOPIC TAGS--NATURAL RUBBER, BUTADIENE RUBBER, PHENOL, DIAMINE, PHENYLENE, CARBON BLACK, CHEMICAL STABILIZER, SULFUR COMPOUND, VULCANIZATE, THERMAL STABILITY, OZONE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--2000/0827 STEP NO--UR/0138/70/029/002/0017/0019

CIRC ACCESSION NO--AP0124494

UNCLASSIFIED

2/2 016 UNCLASSIFIED PROCESSING DATE--30OCT70
CIRC ACCESSION NO--AP0124494
ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. NATURAL RUBBER AND CIS 1,4 BUTADIENE RUBBER MIXTS. (30:70), STABILIZED WITH 2,6 DI TERT BUTYL 4 METHYLPHENOL (I), N PHENYL N PRIME ISOPROPYL P PHENYLENEDIAMINE (II), AND PHENYL BETA NAPHTHYLAMINE, WERE FILLED WITH CARBON BLACK AND VULCANIZED IN THE PRESENCE OF (ME SUB2 NCS)SUB2 S SUB2 (III), S PLUS (HNPH)SUB2 C:NH, S PLUS SULFENAMIDE M (IV), AND SP 1055 RESIN (V) PLUS S COMPN. VULCANIZATES OBTAINED IN THE PRESENCE OF S PLUS IV AND STABILIZED WITH II EXHIBITED SUPERIOR FATIGUE STRENGTH DURING WIDE RANGE FLEXING, WHEREAS VULCANIZATES OBTAINED IN THE PRESENCE OF S PLUS V HAD HIGH FATIGUE STRENGTH ONLY WHEN STABILIZED WITH I. III VULCANIZATES HAD EXCELLENT THERMAL STABILITY REGARDLESS OF THE STABILIZER USED, WHEREAS S VULCANIZATES EXHIBITED HIGHEST THERMAL STABILITY WHEN STABILIZED WITH II. THE O SUB3 RESISTANCE OF THE VULCANIZATES WAS INDEPENDENT OF THE VULCANIZING SYSTEM, BUT DEPENDED ON THE ANTIOZONANT'S EFFECTIVENESS.
FACILITY: NAUCH. ISSLED. INST. SHINNOI PROM., MOSCOW, USSR.

UNCLASSIFIED

USSR

UDC 539.374

FEL'DSHTEYN, V. A.

"Behavior of an Elastoplastic Conical Shell Subjected to Longitudinal Impact"

Tr. VII Vses. konferentsii po teorii obolochek i plastinok, 1969 (Transactions of the Seventh All-Union Conference on the Theory of Shells and Plates, 1969), Moscow, Nauka Pub. House, 1970, pp 588-591 (from RZh-Mekhanika, No 12, Dec 70, Abstract No 12V481, Resume)

Translation: The problem of elastoplastic deformations of a conical shell with geometric parameters α, h, and R_0 L (angle of half-aperture, thickness, radius of mean section, and length of generatrix) subjected to axial impact at the rate V of an absolutely solid body with mass m much greater than the mass of the shell is examined. Experiments show that plastic bending of relatively thick walls is close to the axisymmetric case, therefore we will confine ourselves to investigating this case. Nonlinear equations of motion are described, allowing for shearing and inertia or rotation; the deformation of plasticity is employed.

1/1

1/2 022 UNCLASSIFIED PROCESSING DATE--02OCT70

TITLE--INSTANTANEOUS DISTRIBUTION OF AURORA AND THE POLAR MAGNETIC DISTURBANCES -U-

AUTHOR-(02)-STARKOV, G.V., FELDSHTEYN, YA.I.

COUNTRY OF INFO--USSR

SOURCE--KAZDEL IV, POLYARNYYE SIYANIYA, 1970, VOL 19, PP 32-41

DATE PUBLISHED--------70

SUBJECT AREAS--ATMOSPHERIC SCIENCES, EARTH SCIENCES AND OCEANOGRAPHY

TOPIC TAGS--AURORA, GEOMAGNETIC DISTURBANCE, POLAR AREA, MAGNETIC FIELD

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1994/0119 STEP NO--UR/3307/70/019/0032/0041

CIRC ACCESSION NO--AP0114515

UNCLASSIFIED

2/2 022 UNCLASSIFIED PROCESSING DATE--02OCT70

CIRC ACCESSION NO--AP0114515

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE PAPER ANALYSES THE SPATIAL DISTRIBUTION OF AURORA AT THE GIVEN MOMENTS OF TIME ACCORDING TO THE DATA OF PHOTOGRAPHS OF THE NETWORK OF ALL SKY CAMERAS TAKEN DURING THE PERIOD OF TWO BAY LIKE DISTURBANCES OF THE MAGNETIC FIELD ON DECEMBER 19, 1957, AND DECEMBER 8, 1958. THE PAPER ALSO SHOWS THAT THE INSTATANEOUS DISTRIBUTION OF AURORA CORRELATES WELL WITH THE POSITION OF THE AURORAL OVAL ZONE WHICH IS DETERMINED STATISTICALLY. THE COMPARISON OF THE INSTANTANEOUS DISTRIBUTION OF AURORA AND THE CURRENTS OF THE POLAR MAGNETIC DISTRUBANCES SUGGEST THAT THE ACTIVE AURORA ARE LOCATED ALONG THE BOUNDARY OF THE REGION WHERE THE CURRENT RUNS IN THE WESTERN DIRECTION.

UNCLASSIFIED

1/2 021 UNCLASSIFIED PROCESSING DATE--02OCT70

TITLE--THE AURORAL OVAL AND THE BOUNDARY OF CLOSED FIELD LINES OF GEOMAGNETIC FIELD -U-

AUTHOR-(02)-FELDSTEIN, Y.I., STARKOV, G.V.

COUNTRY OF INFO--USSR

SOURCE--PLANETARY AND SPACE SCIENCE, VOL. 18, APR. 1970, P 501-508

DATE PUBLISHED--------70

SUBJECT AREAS--ATMOSPHERIC SCIENCES, EARTH SCIENCES AND OCEANOGRAPHY

TOPIC TAGS--AURORA, GEOMAGNETIC FIELD, GEOMAGNETIC ACTIVITY, UNIVERSAL TIME/(U)ALOUETTE SCIENTIFIC SATELLITE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1994/0056 STEP NO--UR/0000/70/018/000/0501/0508

CIRC ACCESSION NO--AP0114452

UNCLASSIFIED

2/2 021 UNCLASSIFIED PROCESSING DATE--020CT70

CIRC ACCESSION NO--AP0114452

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. A COMPARISON OF THE POSITION OF THE AURORAL OVAL WITH THE BOUNDARY OF THE STABLE TRAPPING REGION PHI SUB S AND THE LIMIT OF CLOSED GEOMAGNETIC FIELD LINES PHI SUB C HAS BEEN CARRIED OUT; ALOUETTE-2 DATA ARE USED TO OBTAIN THE TRAPPING BOUNDARY. IN THE MIDNIGHT HOURS PHI SUB S COINCIDES WITH EQUATORWARD BOUNDARY OF THE AURORAL OVAL, AND IN THE MIDDAY HOURS PHI SUB C IS SITUATED WITHIN THE OVAL. THE EQUATORWARD BOUNDARY OF THE AURORAL OVAL IS CLOSELY CONNECTED WITH THE POSITION OF THE REGION, IN WHICH THE GEOMAGNETIC FIELD LINES ARE CLOSED, REGARDLESS OF THE DEGREE OF MAGNETIC ACTIVITY. THE VALUES OF PHI SUB C ON THE DAY OF THE EARTH CHANGES WITH UNIVERSAL TIME. IT IS SUGGESTED THAT THE CHANGE IS CAUSED BY THE VARIATION OF THE ORIENTATION OF GEOMAGNETIC AXIS WITH RESPECT TO THE STREAMING SOLAR WIND AROUND THE MAGNETOSPHERE.

UNCLASSIFIED

1/3. 010 UNCLASSIFIED PROCESSING DATE--16OCT70
TITLE--S SUBD VARIATION OF THEMAGNETIC FIELD IN HIGH LATITUDES AT DIFFERENT INTENSITY OF THE MAGNETIC DISTURBANCES -U-
AUTHOR-(02)-ZAYTSEV, A.N., FELDSHTEYN, YA.I.

COUNTRY OF INFO--USSR

SOURCE--KAZDEL IV, POLYARNYYE SIYANIYA, 1970, NR 19, PP 51-60

DATE PUBLISHED--------70

SUBJECT AREAS--EARTH SCIENCES AND OCEANOGRAPHY

TOPIC TAGS--POLAR AREA, GEOMAGNETIC FIELD, GEOMAGNETIC DISTURBANCE, GEOGRAPHIC LATITUDE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--1997/0245 STEP NO--UR/3307/70/000/019/0051/0060

CIRC ACCESSION NO--AP0119241
UNCLASSIFIED

2/3 010 UNCLASSIFIED PROCESSING DATE--16OCT70

CIRC ACCESSION NO--AP0119241

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE PAPER ELABORATES THE CONCEPTION THAT THE S SUBD VARIATION, WHICH DESCRIBES THE FIELD OF POLAR DISTURBANCES, CONSISTS OF THREE PARTS: S SUBD EQUALS S SUBD PRIMEW PLUS S SUBD PRIMEE PLUS S SUBD PRIMEP, WHERE S SUBD PRIMEW AND S SUBD PRIMEE ARE POLAR ELECTROJETS, AND S SUBD PRIMEP IS THE CURRENT VORTEX IN THE POLAR CAP. THE ANALYSIS HAS BEEN CONDUCTED ON THE BASIS OF THE STUDY OF THE EQUIVALENT CURRENT SYSTEMS COMPILED ACCORDING TO THE IGY MATERIALS. IT HAS BEEN FOUND THAT: 1. S SUBD PRIMEW ELECTROJET, WHICH CAUSES INTENSIVE NEGATIVE BAYS DP ALWAYS RUNS IN THE WESTERN DIRECTION FORMING AN OVAL. THE DENSITY OF THE S SUBD PRIMEW ELECTROJET IS NOT REGULAR ALONG THE OVAL AND HAS THE MAXIMAL VALUE ON THE MORNING SIDE ON PHI IS SIMILAR TO 67DEGREES AND THE MINIMAL VALUE ON THE DAY SIDE ON PHI IS SIMILAR TO 75DEGREES. PART OF THE S SUBD PRIMEW CURRENTS IS CLOSED THROUGH THE POLAR CAP, AND A PART THROUGH THE MIDDLE AND LOW LATTITUDES. WITH THE INCREASE OF K SUBP FROM 0-1 TO 5 THE INTENSITY OF THE ELECTROJET INCREASES FROM 20,000-30,000 TO 270,000-280,000A. 2. S SUBD PRIMEE ELECTROJET, WHICH CAUSES POSITIVE BAYS ON THE EVENING SIDE DP SUBPOSITIVE ON PHI IS SIMILAR TO 65DEGREES, ALWAYS RUNS IN THE EASTERN DIRECTION AND IS CLOSED MAINLY THROUGH THE MIDDLE AND LOW LATITUDES. WITH THE INCREASE OF K SUBP FROM 0-1 TO 5 THE S SUBD PRIMEE INTENSITY INCREASES FROM 10,000 TO 110,000-120,000 A. 3.

UNCLASSIFIED

3/3 010 UNCLASSIFIED PROCESSING DATE--16OCT70

CIRC ACCESSION NO--AP0119241

ABSTRACT/EXTRACT--S SUBD PRIMEP CURRENT VORTEX, WHICH IS RESPONSIBLE FOR THE MAGNETIC FIELD DISTURBANCES IN THE POLAR CAP DPC, IS LOCATED ON THE DAY SIDE ON THE AFTER MIDDAY MERIDIANS AND HAS THE CONCENTRATION OF THE CURRENT LINES ON THE LATITUDE IS SIMILAR TO 70DEGREES ON THE 15 H MERIDIAN, AND IS CLOSED THROUGH THE POLAR CAP. THE DIRECTION OF THE CURRENTS IS COUNTER CLOCKWISE. WITH THE INCREASE OF K SUBP FROM 0-1 TO 5 THE INTENSITY OF S SUBD PRIMEP INCREASES FROM 40,000-50,000 TO 150,000 TO 150,000-170,000A. 4. THE INTENSITY AND FORM OF S SUBD PRIMEW AND S SUBD PRIMEE ELECTROJETS INCONSIDERABLY CHANGE WITH SEASON. S SUBD PRIMEP VORTEX OCCURS EXCLUSIVELY IN SUMMER: IN WINTER ITS INFLUENCE ON THE FORM OF THE EQUIVALENT S SUBD CURRENT SYSTEM IS INFINITELY SMALL.

UNCLASSIFIED

1/2 019 UNCLASSIFIED PROCESSING DATE--02OCT70
TITLE--GEOMAGNETIC BAYS, THEIR INTENSITY AND FREQUENCY OF APPEARANCE -U-

AUTHOR-(02)-AFONINA, R.G., FELDSHTEYN, YA.I.

COUNTRY OF INFO--USSR

SOURCE--KAZDEL IV, POLYARNYYE SIYANIYA, 1970, NR 19, PP 61-71

DATE PUBLISHED-------70

SUBJECT AREAS--EARTH SCIENCES AND OCEANOGRAPHY

TOPIC TAGS--GEOMAGNETIC DISTURBANCE, POLAR AREA, GEOMAGNETIC FIELD, VECTOR, AURORA, MAGNETIC FIELD INTENSITY

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--1994/0117 STEP NO--UR/3307/70/000/019/0061/0071

CIRC ACCESSION NO--AP0114513

UNCLASSIFIED

2/2 019 UNCLASSIFIED PROCESSING DATE--02OCT70

CIRC ACCESSION NO--AP0114513

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. WITH THE PURPOSE OF JUDGING ABOUT THE REPRESENTATIVITY OF A GLOBAL PRESENTATION OF THE FIELD OF POLAR MAGNETIC DISTURBANCE IN THE FORM OF AN EQUIVALENT CURRENT SYSTEM OF ONE TYPE OR ANOTHER, THE PAPER INVESTIGATES THE DIRECTION OF THE DISTURBED VECTOR AT PHI SIMILAR TO 70DEGREES AT 20-22 LT AND PHI SIMILAR TO 75DEGREES AT 09-10 LT, AS WELL AS THE CHARACTER OF THE VECTOR ROTATION WHILE PASSING FROM A POSITIVE BAY LIKE DISTURBANCE TO A NEGATIVE ONE IN WINTER. THE DIRECTION OF THE FIELD VECTOR ALONG THE MERIDIAN TOWARDS THE EQUATOR AT 20-22 LT AT PHI SIMILAR TO 70DEGREES AND AT 09-10 LT AT PHI SIMILAR TO 75DEGREES, THE TENDENCY TO CLOCKWISE ORTATION AT PHI SIMILAR TO 65DEGREES AT EVENING HOURS DURING OP DISTURBANCES ALLOW TO MAKE CONCLUSION ABOUT A BETTER AGREEMENT OF THE OBSERVATIONS OF THE CURRENT SYSTEM, GIVEN IN FIG. 1.B., WITH THE DATA. THE WESTERN ELECTROJET IS LOCATED WITHIN THE OVAL ZONE OF AURORAE, THE WIDTH OF THE ELECTROJET INCREASES IOWARDS THE MORNING AND EVENING HOURS. THE CURRENT IN THE EAR POLAR REGION IS A CONSEQUENCE OF THE CLOSING OF THE PART OF THE CURRENT FROM THE WESTERN ELECTROJET. THE WESTERN ELECTROJET IS CLOSED MAINLY THROUGH MIDDLE LATITUDES.

UNCLASSIFIED

USSR

UDC 669.24:539.37

BABICH, B. N., BERNSHTEYN, M. L., PORTNOY, K. I., PROKOSHKINA, V. G., and FEL'GINA, S. B., Moscow

"Effect of Cold Rolling and Subsequent Heating on the Structure and Properties of Dispersion-Hardened Nickel"

Moscow, Akademiya Nauk SSSR. Izvestiya. Metally, No 6, Nov-Dec 72, pp 144-148

Abstract: A study is made of the effect of cold rolling with a 60% reduction in area and subsequent heating on the structure, texture, and hardness of dispersion-hardened nickel containing 3 vol. % HfO_2 and obtained under different conditions of hot extrusion. The cold plastic deformation by means of rolling intensifies during reheating recrystallization of dispersion-hardened nickel as opposed to rotation forging. The obtained recrystallized structure with large elongated grains (2-3 mm) is characterized by the presence of annealing twins, developed substructure, and texture that retains mainly the orientations of the structure of deformation. In order to obtain a maximum degree of hardening of dispersion-hardened alloy, it is feasible to utilize a combined deformation during thermomechanical treatment which provides for combining of deformation rolling and rotation forging.

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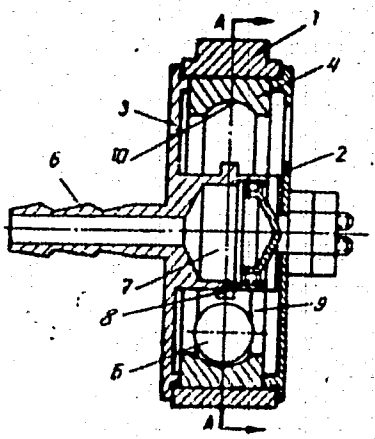
AA0047020

UR 0482

Soviet Inventions Illustrated, Section III Mechanical and General, Derwent, /-70

228377 PNEUMATIC BALL VIBROMOTOR comprising ring with internal running track, compressed air nozzles and ball weight, differing in the nozzles being in a head in the centre of the ring. This simplifies the design and manufacture of the device. The vibromotor consists of clamp body 1, front and rear caps 2 and 3, ring 4 and ball weight 5. Compressed air is supplied via connection 6 into head 7 whence it goes along tangential nozzles 8 to central cavity 9, bringing weight 5 into motion along running track 10. 14.7.62. as 787584/24-6. FELIKSON, E.I. (2.6.69) Bul. 31/8.10.68. Class 46d, Int. Cl. F 02g.



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USSR UDC 621.791:539.378.052:669.14:539.3

FELIKSON, YE. I., Candidate of Technical Sciences, and SADOMTSEV, A. A., Engineers, Scientific Research Design Institute for Testing Machines, Instruments and Equipment for Measuring Mass

"Elastic Properties of the Diffusion Zone of Steel"

Moscow, Svarochnoye Proizvodstvo, no 9, Sep 70, pp 24-25

Abstract: In the fabrication of components for devices, such as measuring elastic elements, it is necessary that the elastic properties of the permanent joints have the same properties of the materials being joined. This paper deals with the elastic properties of the diffusion zone of steels and alloys designed for use in these measuring elements. Diffusion welding does not involve melting of the joined materials, and it is assumed that the weld-metal zone of similar materials such as 35KhGSA and 50KhGA steels maintains the same properties as are displayed by these materials. This study showed that 35KhGSA steel subjected to diffusion welding and then used in bend tests maintained the elastic properties of monolithic steel and was well suited for use in the permanent joints of elastic elements.

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USSR

FELIKSON, YE. I., and SADOMTSEV, A. A., Svarochnoye Proizvodstvo, No 9, Sep 70, pp 24-25

In order to obtain low values of practical hysteresis and return elastic after-effect, the tempering of both welded and monolithic elastic elements of 35KhGSA steelmust not exceed 480°C. The minimum value of direct elastic after-effect for both welded and monolithic elastic elements for 35KhGSA is achieved at a tempering temperature of 480°--550°C.

USSR

UDC 621.791.76:669-122.4.621.7.04

FELIKSON, Ye. I., Candidate of Technical Sciences, and FINKELSHTEYN, M. L., Engineer, Scientific Research Design Institute for Testing Machines, Instruments, and Equipment for Measuring Mass Devices

"Diffusion Welding, of Materials in Fluid Media"

Moscow, Svarochnoye Proizvodstvo, No 1, Jan 71, pp 24-25

Abstract: The basic idea of the process is heating the fluid medium to the welding temperature before the welding begins, thus speeding up the heating rate of the welded material by three to six times. A further advantage of this preliminary heating of the fluid is that it protects the surface of the material from oxidation and prevents access of oxygen in the air to the material during its immersion in the bath and while it is cooled after welding in air. This is possible because a layer of the salt usually in the fluid medium remains on the surface of the material in the form of a fine film. The process is also time-saving and can be done with cheaper equipment. In addition, the welds it produces are of excellent quality.

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1/2 020 UNCLASSIFIED PROCESSING DATE--02OCT70

TITLE--THE TYPES OF DEVELOPMENT AND OUTCOMES IN PSYCHOGENIC DEPRESSIONS -U-

AUTHOR-(02)-FELINSKAYA, N.I., IMMERMAN, K.L.

COUNTRY OF INFO--USSR

SOURCE--ZHURNAL NEVROPATOLOGII I PSIKHIATRII IMENI S. S. KORSAKOVA, 1970, VOL 70, NR 4, PP 564-569

DATE PUBLISHED-------70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--PSYCHOSIS, BODY FATIGUE, INHIBITION, MENTAL DISORDER

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1988/1535 STEP NO--UR/0246/70/070/004/0564/0569

CIRC ACCESSION NO--AP0106286

UNCLASSIFIED

2/2 020 UNCLASSIFIED PROCESSING DATE--02OCT70

CIRC ACCESSION NO--AP0106286

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. IN FORENSIC PSYCHIATRIC PRACTICE THE FOLLOWING 3 MAIN SYNDROMES OF PSYCHOGENIC DEPRESSION MAY BE ENCOUNTERED: 1) DEPRESSIVE PARANOID; 2) ASTHENO DEPRESSIVE; 3) DEPRESSIVE HYSTERICAL. THE DEPRESSIVE PARANOID SYNDROME DEVELOPS GRADUALLY, IS ACCOMPANIED BY IDEAS OF SELF ACCUSATION, SYMPTOMS OF DEPERSONALIZATION AND DEREALIZATION, THE KANDINSKY SYNDROME. THE COURSE OF THE STATE IS PROTRACTED. IN THE POSTREACTIVE PERIOD THE ASTHENICAL SYNDROME IS QUITE EVIDENT. SUBSEQUENTLY A PATHOCHARACTEROLOGICAL STRUCTURE MAY BE FORMATED OF THE PARANOID PSYCHOPATHY TYPE, LESS FREQUENTLY PSYCHOPATHY OF THE EXCITATIVE TYPE. THE ASTHENO DEPRESSIVE SYNDROME IS EXPRESSED IN A GRADUAL INCREASE OF PSYCHOMOTOR RETARDATION. THE MAIN SYMPTOMS ARE DESPONDENCY, APATHY, FATIGUE, AN INHIBITION OF ALL MENTAL FUNCTIONS. THE COURSE IS SLUGGISH PROGRESSIVE. IN THE POSTREACTIVE PERIOD A PATHOCHARACTEROLOGICAL PERSONALITY STRUCTURE MAY APPEAR OF THE ASTHENICAL PSYCHOPATHY TYPE, OR THE POSTREACTIVE CHANGES MAY ACQUIRE A CHARACTER OF AN ORGANIC DEFECT. THE HYSTERICAL DEPRESSION IS OF A MORE EXPRESSIONAL TYPE WITH A MOBILITY OF CLINICAL SYMPTOMS AND IS ACCOMPANIED BY ELEMENTS OF OTHER HYSTERICAL REACTIONS. THE COURSE IS FAVORABLE. RECOVERY MAY APPEAR DIRECTLY AFTER A CHANGE IN THE ENVIRONMENT OR AFTER TREATMENT. HOWEVER, IN THE REMOTE POSTREACTIVE PERIOD THERE MAY BE A TENDENCY TO FIXED FORMS OF REACTIVITY DUE TO DIFFERENT PSYCHOGENIC FACTORS. THE SUBSEQUENT POSTREACTIVE DEVELOPMENT MAY BE IN THE FORM OF AN INCREASING PERSONALITY DISORDER OF THE HYSTERICAL TYPE.

UNCLASSIFIED

USSR

UDC 51

SARCHIMELIYA, R. A. and FEL'KER, V. M.

"On the Problem of Linear Programming with Some Change in the Limits"

V sb. Issled. nekotor. vopr. mat. kibernet. (Studies of Some Questions of Mathematical Cybernetics--collection of works), Tbilisi, Tbilisi University, 1973, pp 43 - 56 (abstract in Georgian) (from RZh Matematika No 12, 1973, Item No 12 V 533)

Translation: This is a study of the behavior of the goal function in a linear programming problem with changes in the absolute terms of the boundaries. The problem considered is

$$c(\varepsilon) = \min \{cx \mid x \in G_\varepsilon\},$$

where

$$G_\varepsilon = \{x \mid x \in D, \ ||Ax - b^0|| \leq \varepsilon - \varepsilon_0\},$$

$$D + \{x \mid x \geq 0, \ Rx = r\},$$

$$\varepsilon_0 = \min_{x \in D} ||Ax-b|| = ||Ax^0 - b||,$$

$$b^0 = Ax^0 - Ax(\varepsilon_0),$$

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USSR

SARCHIMELIYA, R. A., et al, V ab. Issled. nektor. vopr, mat, kibernet., Tbilisi, Tbilisi University, 1973, pp 43 - 56

$x(\varepsilon)$ is the optimal solution (1). Here A and R are matrices of dimensions m x n, q x n, respectively. An algorithm based on the simplex method is suggested, yielding piecewise-linear functions $c(\varepsilon)$ and $x(\varepsilon)$ on $[\varepsilon_0, \infty)$ in approximate form.

Abstract by S. Lebedev.

2/2

FEL'SHINA, Ye. I.

50:USPRS 53330
17 Jun 71

UDC 612.766.2.015.31

CHANGES IN HUMAN WATER-MINERAL METABOLISM DURING WATER IMMERSION

[Article by A. Ya. Korobkov, [illegible] and Ye. I. Fel'shina; Moscow, Kosmicheskaya biologiya i aviakosmicheskaya meditsina, Russian, Vol 5, No 3, 1971, pp 15-19, submitted for publication 3 June 1970]

Abstract: The effect of a 5-day water immersion test (involving five young healthy male test subjects) on the state of mineral metabolism was investigated. An increase in diuresis (mostly water) and a change in urinary electrolyte excretion was observed. Variations in the renal function of water and ion excretion during the immersion experiment were accompanied by an increase in sodium and potassium content in the plasma and erythrocytes, during the first to third days after the experiment water and mineral excretion was delayed. During the experiment the hematocritic index increased substantially, possibly an indirect indication of a reduction in the volume of circulating plasma, and accordingly, the blood concentration. Following the immersion test significant changes were noted in the hematocritic index in response to a standard load. Mechanism of the observed changes are discussed.

In recent studies it has been demonstrated that restriction of motor activity results in definite changes in water-mineral metabolism. In experiments with prolonged bed confinement and exposure in an immersed state there was found to be primarily a decrease in intravascular volume (Graveline, et al.; Severn, et al.; Vogt; Osterfield, et al., and others). The predominance of eliminated fluid over the consumed quantity is accompanied by increased excretion of nitrogen, phosphorus, calcium, potassium and sodium (Ye. M. Mirzayev, et al.; N. I. Nakhapin; Berman, et al.; Gilbert, et al.; Eckert, et al., and others).

However, it is known that the electrolyte balance exerts a direct effect on the functional state of the cardiovascular system. Accordingly, it becomes clear why so much interest is being shown in changes in biochemical

USSR

UDC 539.67

FELTAM, P., and N'YUKHEM, S.

"Internal Friction in Copper and α-Brass in the Process of Plastic Deformation"

Sb. "Vnutrenneye treniye v metallicheskikh materialakh" (Internal Friction in Metallic Materials), Moscow, Izd-vo "Nauka," 1970, pp 68-73

Abstract: Internal friction in copper and α-brass was investigated by the method of torsional vibrations in the plastic deformation process.

The amplitude dependence of internal friction, observed at the near yield state, is explained by the interaction of a cyclical stress with a creeping deformation component. The amplitude-independent internal friction at higher plastic deformations is attributed to losses arising because of a torsional stress contribution to plastic deformation. The zinc content does not affect the internal friction up to a maximum tensile deformation of 1%. 3 figures, 7 references.

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1/2 022 UNCLASSIFIED PROCESSING DATE--20NOV70

TITLE--EXCITATION OF ARGON IONS THROUGH ELECTRON ATOM COLLISIONS -U-

AUTHOR-(02)-FELTSAN, P.V., POVCH, M.M.

COUNTRY OF INFO--USSR

SOURCE--OPTIKA I SPEKTROSKOPIIA, VOL. 28, FEB. 1970, P. 217-222

DATE PUBLISHED--------70

SUBJECT AREAS--PHYSICS

TOPIC TAGS--ARGON, ION, ELECTRON COLLISION, SPECTRAL LINE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1992/1485 STEP NO--UR/0051/70/028/000/0217/0222

CIRC ACCESSION NO--AP0112479

UNCLASSIFIED

2/2 022 UNCLASSIFIED PROCESSING DATE--20NOV70

CIRC ACCESSION NO--AP0112479

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. DISCUSSION OF EXPERIMENTS IN WHICH ARGON IONS WERE EXCITED BY COLLISIONS WITH LOW ENERGY ELECTRONS, AND THE EXCITATION FUNCTIONS AND EFFECTIVE CROSS SECTIONS OF THE AR II LINES AND LEVELS WERE STUDIED BY OPTICAL METHODS. IT IS FOUND THAT THE QUARTET LINES INVESTIGATED HAVE A SINGLE MAXIMUM WHILE THE DOUBLET LINES POSSESS TWO MAXIMA. THE CROSS SECTIONS OF THE QUARTET LEVELS (WITHOUT ALLOWANCE FOR CORRECTIONS FOR CASCADE TRANSITIONS) EXHIBIT A MAXIMUM AT 70 EV AND DECREASE RAPIDLY AT HIGHER ENERGIES, WHILE THE DOUBLET LEVELS HAVE A WEAKLY EXPRESSED SECONDARY MAXIMUM. THIS (FOR UNKNOWN REASONS) DISAGREES WITH THE RESULTS OBTAINED BY BENNET ET AL. (1966).

UNCLASSIFIED

FELTYN, I. A.

SO: JPRS 51279
14 June 1970

STUDY OF THE GROWTH OF MONOCRYSTALLINE FILMS OF SILICON CARBIDE ON SILICON

All-Semiconductor Materials

[Article by I. P. Nevmane, M. K. Sang, I. A. Feltyn', L. A. Freyberg; Novosibirsk, Protsessy Rosta i Struktura Monokristallicheskikh Sloyev Poluprovodnikov — Trudy Simpoziuma, Russian, Part 2, 1969, pp 135-139]

The silicon carbide films on silicon are of interest thanks to the possibility of simultaneous use of valuable semiconducting properties of silicon and silicon carbide and also in connection with the fact that these materials differ sharply with respect to crystallographic properties. The difference in the permanent lattices of silicon and silicon carbide is 20.9 percent at the same time as for the semiconductors germanium and gallium arsenide it is a total of 0.007 percent. It is clear that obtaining high-quality SiC films on Si is a difficult problem.

In the literature papers appeared on this problem in 1965-1966. In them there was a report on the growth of the SiC films on Si in the presence of graphite [1] or the effect of methane [2] in an argon atmosphere, thermal arrangement of silicon tetrachloride and propane in the hydrogen flow [3] and chlorosilanes both in hydrogen and in argon [4, 5].

The listed methods were used to obtain silicon carbide films from 400 Å to several microns thick.

In reference [2], a study was made of the growth rate of films as a function of temperature and partial pressure of methane. It was found that the film thicknesses directly proportional to the value of $t^{1/2}$.

$(\ln P + A)^{1/2} \cdot \exp(-4q/2kT)$ where t is the reaction time; $\bar{P}$ is the partial pressure of methane; T is the reaction temperature; $\bar{q}$ is the electron charge; k is the Boltzman constant. The process of growing SiC is considered as the diffusion of carbon into the silicon.

The studies of the crystal lattice by the methods of electron diffraction and x-rays demonstrated that the indicated methods can be used to obtain monocrystalline epitaxial films of β-type SiC. The authors of reference [2] discovered that the films obtained by them comprise two layers — monocrystalline and polycrystalline. The polycrystalline layer is observed on the silicon

JPRS 59208 3

6-73

IX-6. STRUCTURAL STUDIES OF THE SYSTEM MADE UP OF THE SILICON CARBIDE FILM AND SILICON SUBSTRATE

[Article by Ye. V. Kalnach, I. P. Heymane, I. A. Feltyn', Riga; Novosibirsk, III Simpozium po Protsessam Rosta i Sinteza Poluprovodnikovykh Kristallov i Plenok, Russian, 12-17 June 1972, p 121]

By means of electron microscopy and diffraction, infrared for spectroscopy and metallographic techniques, studies were made of the variation of the silicon carbide film structure on silicon as a function of the growth conditions of the films and their thickness and also the effect of the films of different structure and thickness on the structure of the monocrystalline substrate. In order to obtain silicon carbide, the method of thermal decomposition of chlorosilanes in an argon or hydrogen atmosphere was used.

On the basis of the analysis of the histograms of the films constructed by the dark-field microphotographs, the general characteristic of the film growth process to a thickness of 4,000 Å was given for different growth conditions.

The film defects were discovered, and the causes of their occurrence were established. The dependence of the film on the cleanness and perfection of the substrate was established.

The effect of a polycrystalline (uniform) film on the substrate structure was detected on reaching a film thickness of 5,000-6,000 Å. The defects in the film lead, as a rule, to the appearance of defects on the substrate surface. The degree of "destruction" of the substrate depends on the size of the crystal units of the film and its thickness.

FELTYN', I.A.

APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002200810010-7"

FELTYN, I. A.

SO: JPRS 59279
14 June 73

VARIATION OF THE ELECTROPHYSICAL PARAMETERS OF EPITAXIAL FILMS OF GERMANIUM AS A RESULT OF GAS ETCHING

[Article by E. E. Apoltyn', L. A. Laukmanis, I. A. Feltyn'; Novosibirsk, Protsessy Rosta i Struktura Monokristallicheskikh Sloyev Poluprovodnikov -- [illegible] Simpoziuma, Russian, Part 2, 1969, pp 110-115]

We have studied the variation of the electrophysical parameters of substrates and epitaxial films of germanium as a result of etching with gaseous hydrogen chloride.

The epitaxial films of germanium were obtained by means of the gas transport reactions in the iodide process. The gas etching was carried out in a horizontal quartz reactor with induction heating. The apparatus and the procedure for carrying out the process are described in references [1-3]. The studies were made in the temperature range of 430-920° C with the application of pure hydrogen as the gas carrier. The HCl concentration in the H_2 flow was 5-18 percent. The duration of the process was 5-10 minutes. Before the process, the specimens underwent a complete mechanical and chemical treatment cycle.

The results with respect to studying the effect of the gas etching in all cases compared with the results of studying the effect of the treatment in a hydrogen flow under conditions identical to the gas etching conditions.

The effect of the gas media on the electrophysical properties was determined by measuring the mean specific resistances, the type of conductivity, the lifetime of the minority carriers, and a study of the surface morphology under a microscope.

The variation of the electrical parameters of the specimens was controlled by means of super high frequency methods. In order to monitor the lifetime of the minority carriers the specimens were irradiated by a super high frequency electromagnetic field. The excess carriers were introduced by direct current pulses or pulses of the microwave field. The lifetime of the minority carrier was determined by the pulse decay time. The separate measurement of the total and the surface lifetimes offer the possibility of studying the variation of the lifetime of the minority carriers both on the surface and in the volume.

FELTYN, I. A.

(2)

JPRS 57279
14 Nov 73

KINETICS OF GAS PICKLING AND EPITAXIAL GROWTH OF SEMICONDUCTOR MATERIALS

[Article by A. A. Laukmanis, I. A. Feltyn'; Novosibirsk, Protsessy Rosta i Struktura Monokristallicheskikh Sloyev Poluprovodnikov -- [illegible], Russian, Part 2, 1969, pp 103-109]

The formation of epitaxial films and the process of gas etching can be considered as the result of the interaction of the gas phase with the solid state. The direction of the process basically depends on the thermal conditions and composition of the gas phase in the process zone. In the literature there is no united opinion regarding the kinetics of these processes:

Process mechanism	Kinetic equation	Bib. ref.
$M + MX_4 = 2MX_2$	$\frac{dm}{dt} = -kP_4^{1/2}$	[3, 4]
- - - - - - -	$\frac{dm}{dt} = -K_1' P_4^{n} + K_2' P_2^{2n}$	[2]
$GeCl_4 + H_2 \rightarrow GeCl_2 + 2HCl$ $2GeCl_2 \rightleftharpoons Ge + GeCl_4$	$\frac{d[Ge]}{dt} = K_1[GeCl_2]^2 + K_2[H_2][GeCl_2] - K_3[GeCl_4]$	[2]
- - - - - - -	$I = \frac{D_1}{\lambda_1}[Ge] - \frac{D_2}{\lambda_2}[GeCl_4]$	[2]
Not taken into account	$\Pi = \mu P^*$	[2]

In the table the following notation was used:

P^* is the partial pressure of the diffusant on the phase interface, μ is the transport factor defined experimentally and dependent on the structural design of the reactor and the experimental conditions, I is the growth rate, P_2, P_4 are the partial pressure of the dihalide and the tetrahalide respectively, M is the metal, X is the halide.

USSR

UDC 539.211+539.23+548.74

KALNACH, YA.V., FELTYN', I.A. [Physicotechnical Institute, Academy Of Sciences, Latvian SSR]

"Concerning Crystalline Structure Of Silicon Dioxide Pyrolytic Films"

Izv. Akademii Nauk Latviyskoy SSR: Seriya fizicheskikh i tekhnicheskikh nauk (Bulletin Of The Academy Of Sciences, Latvian SSR: Physics And Technical Sciences Series), No. 4, 1972, pp 9-14

Abstract: The paper studies the effect of processing Ge and Si substrates on the crystalline structure of films grown by way of pyrolytic decomposition of tetraetoxisilane at temperatures of 350 and 700° C. The state of the substrate surface before coating with a SiO_2 film was investigated after each processing with the aid of diffraction of fast electrons. It is found that the surface of Si and Ge substrates differ after various forms of processing: 1) By the degree of contamination; 2) By the presence of layers which differ in structure from the basic material; and 3) By profile. The most perfect, pure, and plane surface can be obtained by chemical-mechanical polishing of silicon. Films obtained by pyrolytic decomposition of tetraetoxisilane at temperature of 700 and 350° C had an amorphous structure and differed among themselves in chemical composition. No dependence of the crystalline structure of SiO_2 on the

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USSR

KALNACH, YA. V. and FELTYN', I. A., Izv. Akademii Nauk Latviyskoy SSR: Seriya fizicheskikh i tekhnicheskikh nauk, No 4, 1972, pp 9-14

method of processing of the substrate was detected. A considerable effect of the method of processing the substrate on the number of defects in the films was noted. The crystalline structure of high-temperature pyrolytic films on Ge and Si is close to the structure of films thermally grown on Si, and has the short-range order of β-cristobalite. Received, 6 Dec 1971. 19 ref. 4 fig.

2/2

USSR

UDC: 621.382.2

ZHAGATA, L. A., KALNINYA, R. P., FELTYN', I. A., and FREYBERGA, L. A.

"Dielectric Films Obtained by Low-Temperature Oxidation of Tetraetoxysilane"

Riga, Izvestiya Akademii nauk Latviyskoy SSR -- Seriya fizicheskikh i tekhnicheskikh nauk, No 5, 1972, pp 34-39

Abstract: Experimental research is described for the formation of films by oxidized tetraetoxysilane in the temperature range of 270-370° C in dry oxygen and in a mixture of oxygen and water vapor. Changes in the composition and characteristics of the films as a result of the changes in the deposition techniques were also observed in the course of these experiments. The specimen films were grown on chemically and mechanically polished n- and p-type silicon substrates in a device described in an earlier article published in this same journal (No 1, 1965, p 26) by the second and third authors named above. Film thickness was measured by the method of interference lines and film composition was determined by the method of infrared absorption. Electrical characteristics of the films were investigated by the MOS structure method. The authors are associated with the Physics-Energy Institute. Academy of Sciences of the Latvian SSR.

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USSR

UDC: 621.382.002

VIRTMANIS, A. S., FELTYN', I. A., and FREYBERGA, L. A.

"Influence of Local Defects in Dielectric Films on Capacitive Characteristics of MIS Structures"

Riga, Izvestiya Akademii nauk Latviyskoy SSR -- Seriya fizicheskikh i tekhnicheskikh nauk, No 3, 1972, pp 23-26

Abstract: Noting that up until now the influence of local defects in the dielectric film in MIS structures on the capacitance-voltage curve of these devices has not been studied, the authors investigate the curve for structures in which local breakdowns have occurred. The structures investigated were made with films of silicon dioxide obtained by thermal oxidation, by reactive sputtering of the silicon in a high-frequency gas discharge plasma, by oxidation of silicon hydride in a plasma, and by the oxidation of tetraetoxysilane. Mixed films of silicon carbide and silicon oxide on silicon were also used. The measurement of the capacitance-voltage characteristic curves was conducted with equipment operating on the principle of comparing capacitive currents through the specimen tested and a standard capacitance. A range of frequencies between 1 kHz and 1 MHz was used. Several such curves are plotted, and a photograph of a burned-out electrode in one of the devices is shown.

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USSR

UDC: 621.382.002

KALNYNYA, R. P., FELTYN', I. A., FREYBERGA, L. A., EGLITIS, I. E., AND EYMANIS, I. A.

"Silicon Oxide Films Obtained by Reactive Sputtering of Silicon in a High-Frequency Plasma"

Riga, Izvestiya Akademii nauk Latviyskoy SSR -- Seriya fizicheskikh i tekhnicheskikh nauk, No 5, 1972, pp 58-63

Abstract: A description is given of the use of reactive sputtering in a high-frequency gas-discharge plasma for the deposition of silicon oxide films. Monocrystalline silicon was used as the source and a high-frequency discharge was employed since they broaden the chemical composition of the film and result in high productivity. The purpose of this paper is to establish a connection between the condition of the films and their electrophysical parameters. The films were grown on silicon substrates set at right angles to the target in an argon-oxygen plasma in which the oxygen content was varied from 0-100%. Further details of film deposition and of the experimental apparatus are given together with the absorption spectra of SiO_2 films and curves illustrating the electrophysical characteristics of the films. The authors are associated with the Physics-Energy Institute, Academy of Sciences of the Latvian SSR.

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USSR

UDC: 539.293.546.28

FELTYN', I. A., FREYDBERGA, L. A., EGLETIS, I. YE., EYMANIS, I. A.

"Investigation of Metal-Oxide -- Semiconductor Structures with Silicon Dioxide Films Deposited in a High-Frequency Gas-Discharge Plasma"

Riga, Izvestiya Akademii Nauk Latviyskoy SSR, No 2, 1970, pp 48-52

Abstract: By measuring the capacitance of MOS structures, the charge density in the oxide as well as the density and energy distribution of surface states on the oxide-semiconductor interface for MOS structures with silicon dioxide films was determined. The films were applied on p-type silicon substrates by decomposing a mixture of tetraethoxysilane and molecular oxygen in a gas discharge plasma excited by high-frequency (12 MHz) eddy currents inside a pyrex cylinder 30 mm in diameter within a second cylinder 40 mm in diameter. A coolant was circulated between the tubes. The discharge was excited by a 12-turn inductor (H = 5 oersteds) wound over the outside cylinder. The substrate surface was cleaned by chemical etching and argon ion bombardment immediately before applying the film. An interference method was used for determining film thickness. The charge density of the films was found to be $(1\text{-}5)\cdot10^{16}$ m^{-2}, with constant density of surface states equal to $5\cdot10^{15}\text{-}2\cdot10^{16} m^{-2}v^{-1}$ on the oxide-semiconductor interface. It was found that the films contain no charge which is mobile at room temperature, and the MOS

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USSR

FELTYN', I. A., et al., Izvestiya Akademii Nauk Latviyskoy SSR, No 2, 1970, pp 48-52

structures with these films show no hysteresis effect. They are stable for long periods of voltage application.

2/2

USSR

UDC: 533.697

FENDRIKOV, I. A., FRIDLAND, V. Ya.

"On the Problem of Improving the Efficiency of an Exit Cone"

Sb. nauch. tr. Kiyev. in-t inzh. grazhd. aviatsii (Collected Scientific Works of the Kiev Institute of Civil Aviation Engineers), 1970, vyp. 6, pp 82-85 (from RZh-Mekhanika, No 7, Jul 71, Abstract No 7B379)

Translation: An investigation is made of the effect which various forms of input velocity profile have on the effectiveness of a circular conical exit cone with aperture angle of ten degrees and degree of expansion of 3.7 when $R = (1.7\text{-}2.0)\cdot 10^5$ (for the input diameter). Analysis of the experimental data showed that the efficiency of the exit cone is appreciably dependent on the form of the input velocity profile and the intensity of its decay. Maximum exit cone efficiency was achieved when the velocity curve showed a high ratio U_{max}/U_{av} and when the velocity was increased close to the walls. Such a velocity profile has an inflection point, which is a necessary condition for its rapid decay. A. S. Malyutin.

1/1

Immunology

USSR UDC 615.371:576.858.25].038+616.938.25-002.395.42-085.371-039.71

DUDOV, A. V., KOZLOV, L. B., MOLOTILOV, B. A., and FEDEVA, N. A., Tyumen' Scientific Research Institute of Regional Infection Pathology, Ministry of Health RSFSR, and Antiencephalitis Division, Ministry of Health RSFSR

"Live Vaccine Against Tick-Borne Encephalitis. Antigenic Potency"

Moscow, Voprosy Virusologii, No 6, Nov/Dec 72, pp 703-705

Abstract: Live vaccine and inactivated formolvaccine against tick-borne encephalitis were tested on 980 individuals to determine differences in immunogenicity and to derive optimum vaccination schedules. Single live vaccination produced virus-neutralizing antibodies in 46% of the individuals, antihemagglutinating antibodies in 43%, and complement-fixing antibodies in 6%. With one vaccination schedule production of virus-neutralizing antibodies was 62% greater with live than with inactivated vaccine. The best vaccination schedule for live vaccine was 2 injections (1 ml, 5.5-6.7 lg LD_{50}) 3.5 months to 1 year apart. A pronounced booster effect was noted when individuals had 2-3 previous vaccinations by inactivated vaccine. Thus use of live tick-borne encephalitis vaccine is recommended in foci in which the population had undergone immunization by formolvaccine.

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USSR

UDC 577.154

KAPITONOVA, L. S., RODIONOVA, N. A., and FENIKSOVA, R. V., A. I. Bakh Institute of Biochemistry, USSR Academy of Sciences, Moscow

"Purification and Properties of Pectate-Trans-Eliminase of Clostridium felsineum"

Moscow, Biokhimiya, No 5, 1973, pp 1054-1061

Abstract: Pectate-trans-eliminase was obtained from the culture fluid of the anerobe Clostridium felsineum No 5, by precipitation with alcohol, separation on CM-cellulose, and filtration through Sephadex-G-200. The preparation, purified 225 times and homogeneous in polyacrylamide gel electrophoresis, had a molecular weight of 105,000. It was highly active at pH 8 to 10, especially at pH 8.5, and inactive at pH 4 to 6. $CaCl_2$, $CoCl_2$, CdCl, $SrCl_2$, and $MnCl_2$ increased the activity of the enzyme. EDTA inactivated it while $ZnCl_2$, $BaCl_2$, and $MgCl_2$ inhibited it. Study of the substrate specificity of trans-eliminase showed it to be most active against pectic acid, much less active against partly esterified pectin, and inactive against completely esterified pectic acid. The purified enzyme macerated potato tuber and flax stem tissues. Its specific macerating activity was 100 times greater than in the culture fluid.

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1/2 021 UNCLASSIFIED PROCESSING DATE--04DEC70

TITLE--INFLUENCE OF VARIOUS CARBON SOURCES ON THE FORMATION OF CELLULOLYTIC ENZYMES BY TRICHODERMA SPECIES 18 SUBS -U-

AUTHOR-(03)-FENIKSOVA, R.V., ULEZLO, I.V., SHALAMBERIDZE, N.G.

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DATE PUBLISHED-------70

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DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--3007/1967 STEP NO--UR/0251/70/057/003/0689/0692

CIRC ACCESSION NO--AP0137146

2/2 021 UNCLASSIFIED PROCESSING DATE--04DEC70

CIRC ACCESSION NO--AP0137146

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. CULTURING TRICHODERMA 18 SUB5 ON A MIXT. OF 2PERCENT BEET JUICE AND 2PERCENT WHEAT BUTTS RESULTED IN GOOD PRODUCTION OF CELLULASE. LESS EFFECTIVE WAS A MIXT. OF WHEAT BUTTS AND SUNFLOWER HUSKS. COTTON, PAPER, GLUCOSE, LACTOSE, AND STARCH WERE POOR STIMULATORS OF CELLULASE PRODUCTION. FACILITY: INST. BIOKHIM. IM. BAKHA, MOSCOW, USSR.

UNCLASSIFIED

Acc. Nr: AP0044405 Ref. Code: UR 0239

PRIMARY SOURCE: Fiziologicheskiy Zhurnal, 1970, Vol 56, Nr 1, pp 114-118

CHANGES IN BLOOD SERUM PROTEINS DUE TO LOSS OF PANCREATIC JUICE

By E. P. Fenina

From the K. M. Bykov Departm. of General Physiology Institute of Experimental Medicine, USSR Ac. Med. Sci., Leningrad

Changes in certain indices of protein metabolism (total protein, albumin, globulin and blood serum hapta-globine) depending on the functional state of the pancreatic gland have been studied in experiments in dogs with the Pavlov pancreatic fistula.

Data obrained demonstrated that disorders in the excretory function of the pancreatic gland are accompanied by essential shifts in the blood serum proteins expressed by hypo-or hyper proteinemias, a decrease in albumin and hapta-globine, increase in γ, β, α_2-globulins and the occurence of an additional fraction in the globulins (between β and α_2-globulins). These facts enable to draw a conclusion concerning the connection between the pancreatic gland excretory function and the protein composition of blood serum.

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19771023

USSR UDC: 669.018.4:536.422

GORDIYENKO, S. P., FENOCHKA, B. V., FESENKO, V. V.

"Rare Earth Metals and Their Refractory Compounds"

Redkozemel'nyye Metally i Ikh Tugoplavkiye Soyedineniya, Kiev, Naukova Dumka Press, 1971, 168 pp.

Translation of Introduction: Of the 170-year history of the study of the rare earth elements, over 100 years were dedicated by the world's chemists to the discovery and separation of the individual elements. The works of Russian scientists, particularly of D. I. Mendeleyev, who predicted trivalence, the atomic weight and many other physical and chemical properties of the rare earth elements, have been significant in these studies.

At the present time, our country has everything necessary (raw materials, methods of purification, separation and production control) for the creation of a well-developed rare earth element industry. The primary problem is discovery of new areas of application of the rare earth elements, their alloys and compounds.

We must note that the rare earth metals, and particularly their refractory compounds--oxides, carbides, borides, sulfides and phosphides, with melting points of up to 2500-2800°K, are promising materials for various areas of new technology.

In the literature, methods for production of refractory compounds have been presented, and their structural and electrical properties have been studied.

1/4

USSR

Gordiyenko, S. P., Fenochka, B. V., Fesenko, V. V., Redkozemel'nyye Metally i Ikh Tugoplavkiye Soyedineniya, Kiev, Naukova Dumka Press, 1971, 168 pp.

However, information on such properties as the evaporation rate, composition and pressure of vapor, necessary for determination of the optimal modes of utilization of rare earth metals and refractory compounds, are scattered through a number of sources.

In addition to the data required to determine evaporation losses, studies of the evaporation of rare earth metals and their refractory compounds allow us to determine the basic thermodynamic properties of these substances at high temperatures. In turn, knowledge of these properties allows us to determine the directions of high temperature processes involving rare earth metals and their refractory compounds, which is necessary for the solution of problems of high temperature chemistry and technology.

Establishment of the correlations of thermodynamic characteristics of rare earth metals and their compounds with the peculiarities of the electron structure of the lanthanides (the presence of deep 4f shells, tending toward stable f^7 and f^{14} configurations) is of particular interest.

USSR

Gordiyenko, S. P., Fenochka, B. V., Fesenko, V. V., Redkozemel'nyye Metally i Ikh Tugoplavkiye Soyedineniya, Kiev, Naukova Dumka Press, 1971, 168 pp.

TABLE OF CONTENTS

Foreword 3
Introduction 5
Chapter I. Methods of Studying the Evaporation of Rare Earth Metals and their Compounds
Determination of Vapor Pressure from Evaporation Rate 6
Mass Spectrometric Method of Determination of Vapor Composition and Pressure 8
Thermodynamic Processing of Experimental Data on Evaporation 11
Peculiarities of Methods of Investigation of Evaporation of Rare Earth Metals and their Refractory Compounds 16
Bibliography 17
Chapter II. Evaporation of Rare Earth Metals
Basic Physical and Chemical Properties of Rare Earth Metals 19
Study of Evaporation of Rare Earth Metals, Scandium and Yttrium 25
Bibliography 49
Chapter III. Evaporation of Rare Earth Metal Oxides
Basic Physical and Chemical Properties of Rare Earth Metal Oxides . . . 51

USSR

Gordiyenko, S. P., Fenochka, B. V., Fesenko, V. V., Redkozemel'nyye Metally i Ikh Tugoplavkiye Soyedineniya, Kiev, Naukova Dumka Press, 1971, 168 pp.

Study of the Evaporation of the Oxides of the Rare Earth Metals, Scandium and Yttrium 60
Bibliography 87
Chapter IV. Evaporation of Rare Earth Metal Carbides 89
Basic Physical and Chemical Properties of Rare Earth Metal Carbides . . 94
Study of the Evaporation of Rare Earth Metal Carbides 119
Bibliography 121
Chapter V. Evaporation of Rare Earth Metal Borides 125
Basic Physical and Chemical Properties of Rare Earth Metal Borides . . 135
Study of the Evaporation of Rare Earth Metal Borides 136
Bibliography 141
Chapter VI. Evaporation of other Refractory Rare Earth Metal Compounds 152
Basic Physical and Chemical Properties of Rare Earth Metal Monochalcogenides 153
Study of the Evaporation of Rare Earth Metal Chalcogenides 155
Evaporation of Other Rare Earth Metal Compounds 164
Bibliography 168
Conclusions 169
Appendix 171
4/4

USSR

UDC 911.3:616.981.5(470.67)

FEN'YEV, V. M.

"The Problem of Anthrax Foci and Morbidity in Dagestan"

Sb. nauchn. rabot. Dagestan. n.-i. vet. in-t (Collection of Scientific Works of the Dagestan Scientific Research Veterinary Institute), 1970, 4, pp 59-66 (from RZh-Meditsinskaya Geografiya, No 4, Apr 71, Abstract No 4.36.99)

Translation: For the years 1894-1968 in Dagestan, more than 500 points were registered where anthrax occurred (2,950 patients and 18,660 farm animals). During 1949-1967, people were infected in the process of forced animal slaughter (37.7% of all patients); contact with furs (5.7%), contact with animal carcasses (1.6%); in meat preparation (27.3%); and from infected objects and soil (0.2%). The source of infection was not determined in 27.3% of the cases. The infection can be transmitted through insects. A total of 59.13% of patients were between the ages of 20-40, and 2.36% were children between the ages of 1 and 4: 10.8% were 60 years old or older. In Dagestan, infection occurs all year round. Some 27.64% of the patients were registered in August. For the years 1958-1967, as compared to 1948-1957, morbidity decreased by a factor of 3.8 in humans, and by a factor of 4.5 in animals.

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AA0044622 F Feofanov, V.A. UR 0482

Soviet Inventions Illustrated, Section II Electrical, Derwent,

243984 ULTRASONIC HYDRAULIC RADIATOR consisting of a case (1), ejector (2), tunnel (3), tangential insert (4) with a flat thread, a circular electromagnet (5) with a central core (6), a cover (7) with a nozzle (8). 2/70

The central core and the cover are made of magnetically soft steel, and the tangential insert of a diamagnetic material. The magnetic action on the dispersed reagent takes placed inside a vortex chamber (9) produced by the magnetic system, circular electromagnet, central core and the cover.

This makes it possible to treat magnetically the flotation agent directly during the process of ultrasonic emulsification, to act on newly formed interphase surfaces of the reagent droplets and thus to improve useful components extraction during flotation enrichment of ores and coal.

16.8.67 as 1180594/18-10. FEOFANOV.V.A.et alia. METALLURGY & ENRICHMENT INST. ACAD.SCIENCES KAZAKH SSR. (8.10.69.) Bul 17/14.5.69. Class 42s. Int.Cl. B 06b.

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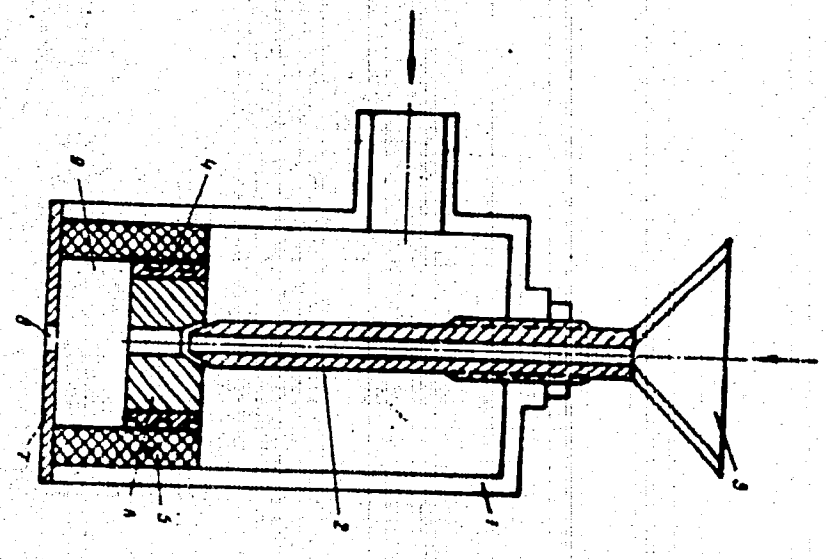

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AA0044622

AUTHORS: Feofanov, V. A.; Sokolov, M. A.; Malakhov, Yu. V.; Bayshulakov, A. A.

Institut Metallurgii i Obogashcheniya AN Kazakhskoy SSR

3/3

19771302

USSR

UDC 621.391.2

SMOL'YANIKOV, V. M., SOROCHINSKIY, M. V., FEOFANOV, Yu. V., FILIPPOV, L. I.

"Principles of Identifying Signal Transmission Channels"

Moscow, Radiotekhnika i Elektronika, vol 16, No 12, Dec 71, pp 2215-2224

Abstract: Three principal classes of methods of identifying signal transmission channels are considered: direct probing, correlation-filter methods, and methods of comparison with a model. The second class, correlation-filter methods, is analyzed in the greatest detail. Some old and new or modified block diagrams for methods in this class are synthesized by systematic analysis of a complex two-dimensional autocorrelation function of the probing oscillation in the channel. Realization of the direct method of probing by δ-pulses involves practical difficulties. The methods of comparison with a model are based on utilizing the principle of physical modeling. Five figures, bibliography of six titles.

1/2 019 UNCLASSIFIED PROCESSING DATE--30OCT70

TITLE--A PSEUDOTUMOROUS FORM OF CHRONIC PNEUMONIA -U-

AUTHOR-(05)-PRISS, B.N., FEOFILOV, G.L., SHUTSKAYA, YE.I., RYBINA, I.A., NEPOMNYASHCHIKH, G.I.

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CIRC ACCESSION NO--AP0125470

UNCLASSIFIED

2/2 019 UNCLASSIFIED PROCESSING DATE--30OCT70
CIRC ACCESSION NO--AP0125470
ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE AUTHORS ANALYZE OBSERVATIONS OVER 20 PATIENTS WITH A PROTRACTED PNEUMONIA, IN WHOM THE CLINCAL COURSE MORE CORRELATED WITH THE PICTURE OF PERIPHERAL LUNG CANCER. OUT OF 20 PATIENTS 16 UNDERWENT SURGICAL INTERVENTION. THE AUTHORS ASSOCIATE THE SYMPTOMS OF LUNG CANCER WITH PROFOUND ALTERNATIONS IN THE DRAINING BRONCHI (PANBRONCHITIS) IN THE INVOLVED PULMONARY SEGMENTS.
FACILITY: NOVOSIBIRSKOGO MEDITSINSKOGO INSTITUTA.

UNCLASSIFIED

UDC: 535.373.4:548.0

USSR

MOROZOVA, L. G. and FEOFILOV, P. P.

"Temperature Quenching of Uranium Luminescence in Scheelite Single Crystals"

Leningrad, Optika i Spektroskopiya, No 4, October 1973, pp 789-790

Abstract: This brief communication is based on an earlier paper in the same journal (A. M. Morozov, et al, 32, 1972, p 100) devoted to the luminescence spectra of six-valent uranium in $Me^{II}Me^{VI}O_4$: where Me^{II} is Ca, Sr, Ba; and Me^{VI} is Mo, W, with the structure of scheelite. In the present communication the author describes experiments using the same specimens placed in a thermostated device permitting temperature changes from 77 to 500°K and excited by a mercury lamp through a light filter separating out 365 nm wavelength radiation. Given in the form of curves, the results of the experiment show that the region of temperature quenching depends to an unusual extent on the Me^{II} cation. A table of parameters for various types of crystal examined is given. The authors find a probable mechanism for the quenching of the luminescence.

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UDC: 535.371

USSR

OVSYANKIN, V. V., PEOFILOV, P. P., State Optics Institute imeni S. I. Vavilov

"Cooperative Processes in Fluorescing Systems"

Moscow, Izvestiya Akademii Nauk SSSR: Seriya Fizicheskaya, Vol 37, No 2, Feb 73, pp 262-272

Abstract: The article reviews the cooperative phenomena caused by resonant and nonresonant interactions in fluorescing condensed media. Particular attention is given to processes of summation of the energy of electron excitations and the part they play in sensitization of photophysical, photochemical, and photobiological phenomena which take place with an energy deficit.

- END -

CSO: 1862-W

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USSR

UDC 535.37:548.0

MOROZOV, A. M., MOROZOVA, L. G., FEOFILOV, P. P.

"Luminescence of Uranium in Scheelite-Structured Monocrystals"

Leningrad, Optika i Spektroskopiya, No 1, 1972, pp 100-110

Abstract: An investigation is made of activated uranium in monocrystals of molybdates and tungstenates of group II metals with the general formula, $Me^{II}Me^{VI}O$ (Me^{II} = Ca, Sr, Ba; Me^{VI} = Mo, W) with scheelite structures. In this investigation, the authors used very low temperatures, including helium levels, in which unusually rare structures were formed at the centers of several specimens. Growth of the crystals is described and the absorption spectra of the crystals plotted. Examples of the latter are shown for $SrWO_4$-U and $BaWO_4$-U together with the luminescence spectra of $Me^{II}Me^{VI}O_4$-U crystals, and an extensive table of the luminescence spectra of these crystals, obtained at a temperature of 4.2° K, is compiled.

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USSR

UDC 535.373.2:553.824

OVSYANKIN, V. V., FEOFILOV, P. P.

"Cooperative Luminescence of Barium and Yttrium Fluorides Activated by Ytterbium and Holmium"

Leningrad, Optika i Spektroskopiya, No 6, Dec 71, pp 944-948

Abstract: A comparative study was made of the role of cooperative and sequential sensitization in the population of radiative states of holmium in polycrystalline barium and yttrium fluorides containing trivalent ytterbium. The spectra and dependence on excitation intensity of the anti-Stokes luminescence of polycrystalline samples of BaF_2 and YF_3 activated by $Yb^{3+} + Ho^{3+}$ were investigated. The anti-Stokes luminescence of holmium was excited by modulated infrared radiation of an incandescent lamp which was passed through a MDR-2 monochromator and a KS-19 filter. The spectra of the anti-Stokes luminescence of Ho^{3+} in the spectral region 460-560 nm show that the spectrum consists of two groups of lines greatly differing in intensity, with maxima about 480 and 550 nm. The photometric dependence of the intensity of the anti-Stokes luminescence on the intensity of the exciting radiation showed that in

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USSR

OVSYANKIN, V. V. et al, Optika i Spektroskopiya, No 6, Dec 71, pp 944-948

the range of change in excitation intensity from 10^{14} to 10^{16} quanta/cm^2·sec the luminescence intensity in both bands is described by a quadratic law. This result is said to indicate the two-quantum character of the excitation, since saturation of none of the possible intermediate states is observed in this range. It was established that the population of the higher radiative levels $^5F_3$ of the Ho^{3+} ion under excitation in the region of the absorption bands of Yb^{3+} (0.9-1.0 μ) is due to a mechanism of cooperative sensitization but due to sequential sensitization as regards the levels $^5S_2$ and $^5F_4$. It is noted that a considerable change in both the microscopic and phenomenological aspects in the current theory of the penomenon of conversion of infrared radiation in crystals with two activators is necessary to extract the most important information from this experiment. This case of conversion of infrared radiation into visible radiation in systems with several types of activating ions shows that the population of highly energetic excited states of ions of one type under excitation in the absorption region of ion-coactivators can be quite complex and

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USSR

OVSYANKIN, V. V. et al, Optika i Spektroskopiya, No 6, Dec 71, pp 944-948

can occur through several mechanisms acting in parallel. The widest possible assortment of analytic methods is recommended to establish the true mechanism involved under the conditions of this experiment.

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UDC 616.981.455-036.21(571.62)

USSR

BUSOYEDOVA, N. M., ANTIP'YEVA, O. A., LIPAYEV, V. M., KOZLOVSKAYA, O. L., CHERNYKH, P. A., FEOKISTOV, A. Z., GRIGOROV, V. I., CHIPANIN, V. L., and KHAMAGANOV, S. A., Khabarovsk Antiplague Station

"Characteristics of Natural Foci of Tularemia in Khabarovskiy Kray"

Moscow, Zhurnal Mikrobiologii, Epidemiologii i Immunobiologii, No 4, Apr 71, pp 26-31

Abstract: A study conducted in the southern part of Khabarovskiy Kray indicated that natural foci of tularemia in forested and agricultural areas are different from those found in other parts of the USSR, because Arvicola terrestris and the common vole (Microtus arvalis) are absent, and hares and house mice are not numerous. Muskrats were found at only one focus. In forested regions the principal host is the large-toothed redbacked vole (Clethrionomys rufocanus), while the long-timo reservoir and vectors are I. persulcatus and H. concinna ticks. Forest and field mice and the Siberian chipmunk were also infected. In agricultural regions the hosts are the northern redbacked and Far-Eastern vole (Clethrionomys rutilis; Microtus fortis), while D. silvarum and H. concinna ticks constitute the reservoir and vectors. A low epizootic level and still lower epidemic activity were typical for

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USSR

BUSOYEDOVA, N. N., et al., Zhurnal Mikrobiologii, Epidemiologii i Immunobiologii, Vol 48, No 4, Apr 71, pp 26-31

tularemia foci in Khabarovskiy Kray in the vicinity of the Amur River. The low rate of infection of human beings was due to the absence or small numbers of classical hosts (Arvicola terrestris, common vole, and hares) with which human beings may come into contact, the absence of active and widespread epizootics, and the predominance in agricultural areas of a rodent of the secondary host group (field mouse). Of seven cases of tularemia recorded, five were of the bubonic form. In one instance the source of infection was water containing P. tularensis, and in another instance the infection was apparently due to introduction of the agent into an eye by hands soiled with rodent feces. Testing of the population at known tularemia foci with tularin resulted in a positive allergic reaction in 1.2-2.5% of cases. The agglutination reaction was positive in 2.5-5.8%, and the passive hemagglutination reaction in 3.3-9.7% of cases. The data reported were obtained in an investigation conducted during 1956-1968.

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1/2 014 UNCLASSIFIED PROCESSING DATE--30OCT70
TITLE--LIQUID GAS ELECTRODE. V. POLARIZATION DURING THE SEPARATION OF HYDROGEN ON A POROUS ELECTRODE -U-
AUTHOR-(02)-KOROVIN, N.V., FEOKTISTOV, A.F.

COUNTRY OF INFO--USSR

SOURCE--ELEKTROKHIMIYA 1970, 6(3), 338-40

DATE PUBLISHED--------70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--CHEMICAL SEPARATION, POROUS ELECTRODE, HYDROGEN

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--1998/1131 STEP NO--UR/0364/70/006/003/0338/0340

CIRC ACCESSION NO--AP0121690
UNCLASSIFIED

2/2 014 UNCLASSIFIED PROCESSING DATE--30OCT70
CIRC ACCESSION NO--AP0121690
ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE PERFORMANCE OF A POROUS ELECTRODE WITH CATHODIC SEPN. OF H CAN BE DESCRIBED BY THE EQUATIONS OF THE LIQ. POROUS ELECTRODE, BY CONSIDERING VARIATION IN THE OHMIC RESISTANCE WITH GAS FILLING OF THE ELECTRODE. IN CONTRAST TO THE LIQ. ELECTRODE, WHERE POLARIZATION AS A FUNCTION OF POROSITY REACHES MAX. IN THE POROSITY RANGE AROUND 0.5, THE POLARIZATION POROSITY CURVE FOR THE LIQ. GAS ELECTRODE HAS A MAX. AND MIN., THE LATTER BEING IN THE POROSITY RANGE AROUND 0.7. FACILITY: MOSK. ENERG. INST., MOSCOW, USSR.

UNCLASSIFIED

USSR

UDC: 539.163.546.662

GAVRILYUK, V. I., GROMOV, K. YA., KLYUCHNIKOV, A. A., KUPRYASHKIN, V. T., LATYSHEV, G. D., MAKOVETSKIY, YU. V., and FEOKTISTOV, A. I.

"Studying the Internal Conversion Electron Spectrum of ^{146}Gd"

Moscow, Izvestiya Akademii Nauk SSSR, Seriya Fizicheskaya, Vol 37, No 9, 1973, pp 1839-1845

Abstract: The authors study the individual sections of the internal conversion electron spectrum of ^{146}Gd with the aid of a $\pi\sqrt{2}$ magnetic beta-spectrometer with high discrimination. This involved three problems: 1. More accurate measurement of conversion line intensity on the L-subshells of atoms for gamma-114.67, gamma-115.52, and gamma-154.58 than has been done previously in order to determine more precisely the E2-component admixture in these M1-transitions. 2. Study the possible direct transitions K260.19, $2^- \rightarrow 4^-$ and K269.28, $1^- \rightarrow 3^-$ according to the decay scheme. 3. Detect the K421 and K576 transitions. The results show that the calculated spectrum was more compressed than the experimental. Further study of the levels of ^{146}Eu will show what is the real order of the levels.

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USSR

AGEYEV, V. A., GAVRILYUK, V. I., KUPRYASHKIN, V. T., LATYSHEV, G. D., LYUTYY, I. N., MAYDANYUK, V. K., MAKOVETSKIY, Yu. V., and FEOKTISTOV, A. I., Institute of Physics of the Academy of Sciences UkrSSR

"Study of Conversion Electron Spectrum of Nb^{96}"

Moscow, Izvestiya Akademii Nauk SSSR, Seriya Fizicheskaya, No 8, Aug 70, pp 1614-1617

Abstract: Individual segments of the conversion electron spectrum of Nb^{96} associated with the doublet structure of transitions found by Monaro and others are also possible according to the decay scheme of Nb^{96} are studied. The measurements were made on the magnetic β-spectrometer of the type $\pi\sqrt{2}$ of the Institute of Physics of the Academy of Sciences UkrSSR. The measurements showed K-line doublets of transitions in the regions 350, 720, and 810 kev and K241.3 is apparently a single line. The results of the measurements are given in a table. The energy of all transitions observed was determined with an error of ±0.3 kev. The K-lines of the transitions 350.1 and 352.1 kev were weak and therefore only an estimate of their intensity is given. For all transitions observed, α_K were determined with respect

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AGEYEV, V. A., et al, Izvestiya Akademii Nauk SSSR, Seriya Fizicheskaya, No 8, Aug 70, pp 1614-1617

to the ratios of the intensities of the conversion lines to the intensities of γ-rays. The values of α_K for the transitions 350.1 and 352.1 were estimated. All transitions correspond to multipolarities M1 or E2. The exception was γ812.4, for which the internal conversion ratio was less than that established from Tc^{96} decay. The ground states are evaluated on the basis of the shell model.

1/2 012 UNCLASSIFIED PROCESSING DATE--16OCT70

TITLE--POSITRON DECAY OF GOLD-194 AND IRIDIUM-188 -U-

AUTHOR-(03)-AGEYEV, V.A., MITROKHOVICH, N.F., FEOKTISTOV, A.I.

COUNTRY OF INFO--USSR

SOURCE--IAV. AKAD. NAUK SSSR, SER. FIZ. 1970, 34(1), 201-3

DATE PUBLISHED--------70

SUBJECT AREAS--NUCLEAR SCIENCE AND TECHNOLOGY

TOPIC TAGS--GOLD ISOTOPE, IRIDIUM ISOTOPE, COINCIDENCE COUNTING, RADIOACTIVE DECAY SCHEME, POSITRON, BETA SPECTRUM

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1988/0276 STEP NO--UR/0048/70/034/001/0201/0203

CIRC ACCESSION NO--AP0105350

APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002200810010-7"

2/2 012 UNCLASSIFIED PROCESSING DATE--16OCT70

CIRC ACCESSION NO--AP0105350

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE DECAY OF PRIME194 AU (39 HR), AND PRIME188 IR (41 HR) WAS STUDIED WITH A 4 PI BETA PRIME POSITIVE-GAMMA COINCIDENCE SPECTROMETER. THE BETTA PRIME POSITIVE SPECTRUM OF BOTH ISOTOPES CONSISTS OF 2 COMPONENTS. THEIR UPPER ENERGY LIMITS ARE 950 PLUS OR MINUS 30 AND 1210 PLUS OR MINUS 20 KEV FOR AU, 1030 PLUS OR MINUS 50 AND 1650 PLUS OR MINUS 30 KEV FOR IR. THE HIGHER LIMITS WERE KNOWN FROM EARLIER PAPERS. FACILITY: KIEV. GOS. UNIV. IM. SHEVCHENKO, KIEV. USSR.

UNCLASSIFIED

1/2 015 UNCLASSIFIED PROCESSING DATE--16OCT70

TITLE--POSITRON DECAY OF GADOLINIUM-146, EUROPIUM-146, AND EUROPIUM-148 -U-

AUTHOR-(03)-AGEYEV, V.A., MITROKHOVICH, N.F., FEOKTISTOV, A.I.

COUNTRY OF INFO--USSR

SOURCE--IZV. AKAD. NAUK SSSR, SER. FIZ. 1970, 34(2), 397-9

DATE PUBLISHED--------70

SUBJECT AREAS--NUCLEAR SCIENCE AND TECHNOLOGY

TOPIC TAGS--BETA SPECTRUM, GAMMA SPECTRUM, RADIOACTIVE DECAY, POSITRON, GADOLINIUM ISOTOPE, EUROPIUM ISOTOPE, PARTICLE ANNIHILATION, NUCLEAR ENERGY LEVEL

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1988/0279 STEP NO--UR/0048/70/034/002/0397/0379

CIRC ACCESSION NO--AP0105353

UNCLASSIFIED

USSR

UDC 595.775

FEOKTISTOV, A. Z., and YAKUBA, V. N., Irkutsk Scientific Research Antiplague Institute of Siberia and the Far East

"The Ability of Fleas to Receive and Transmit Tickborne Encephalitis Virus During Bloodsucking"

Leningrad, Parazitologiya, Vol 5, No 4, Jul/Aug 71, pp 374-376

Abstract: It was established in laboratory tests that Ceratophyllus conegeroides Wagn. fleas can receive and transmit the virus when they are on white mice. Tickborne encephalitis virus strain "Sophian" was used to infect test mice. The first infectious feeding of the fleas lasted for one hour on mice which had been subcutaneously infected for four days with a 10% brain suspension of the virus. The infected fleas were kept at a temperature of 40-22°C. On the next day, the infected fleas were placed on healthy mice for 18-20 hrs. The mice were sacrificed on the seventh day after infection and both mice and fleas were screened for virus.

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2/2 015 UNCLASSIFIED PROCESSING DATE--16OCT70

CIRC ACCESSION NO--AP0105353

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE BETA PRIME POSITIVE SPECTRA AND THE GAMMA RAY SPECTRA IN COINCIDENCE WITH ANNIHILATION RADIATION WERE MEASURED WITH A 4 PI BETA PRIME POSITIVE GAMMA COINCIDENCE SPECTRUMETER COMPRISING A 4 PI BETA DETECTOR (2 STILBENE CRYSTALS WITH PHOTOMULTIPLIERS) AND 3 GAMMA DETECTORS REGISTERING THE ANNIHILATION RADIATION AND GAMMA RAYS. PRIME146 EU, SEPD. RADIOCHEM. FROM THE GD FRACTION WITH ITS DAUGHTER PRODUCT PRIME146 EU, AND AN "OLD" SMAPLE OF THE EU FRACTION CONTG. PRIME148 EU, WERE USED AS SOURCES. THE MAX. ENERGY WAS 350 PLUS OR MINUS 30 KEV, INTENSITY 0.07 PLUS OR MINUS 0.02PERCENT PER DECAY, LOG FT EQUALS 7.2 FOR PRIME146 GD. TWO COMPONENTS OF 940 PLUS OR MINUS 40 AND 540 PLUS OR MINUS 30 KEV (LEADING TO THE LEVEL 1395 KEV) WERE FOUND FOR PRIME148 EU, THE INTENSITY OF THE 540 KEV COMPONENT WAS 0.06 PLUS OR MINUS 0.02PERCENT, WHICH LEADS TO LOG FT EQUALS 8.9. FACILITY: KIEV. GOS. UNIV. IM. SHEVCHENKO, KIEV, USSR.

APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002200810010-7"

UNCLASSIFIED

FEOKTISTOV G.N.

AA0052682

UR 0482

Soviet Inventions Illustrated, Section III Mechanical and General, Derwent, 2-70

243166 WALL SUPPORT FOR MAST HOIST comprising rod connected to the mast and resting on the building wall, and clamps, differing in having a flexible tie passed through a system of pulleys mounted on the rod and clamps, connected to a tensing device, and fixed on it -in the working position by a clamping plate. This simplifies assembly -of the support, and its design. In the process of assembly the clamps are first attached to the wall through apertures. They can be set up independently of the rest of the support, since they can be readily detached from it by taking tie 13 off diverting pulleys 11 and 12. Rod 1 is then fixed first by some temporary method to the mast so that it can move along its axis. After the flexible tie has been threaded by rotating bush-nut 5, the assembler tightens it. The tie with its tensed branches is fixed by clamping plate 19.

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This prevents the flexible tie running along the pulleys in the working position. The tension in the branches remains constant, and rod 1 is unable to move in the plane perpendicular to the axis of the mast. After tensing the tie, the rod is finally fixed to the mast.

17.1.68. as 1210039/27-11, GALICHENKO, A.N. et al Inst. For Building and Roadmaking Engineering. (22.9.69) Bul. 16/5.5.69. Class 35d, Int. Cl. B 66b.

Galichenko, A. N.; Mos'kin, A. N.; Feoktistov, G. N.; Gekht, A. Kh.
Usesoyuznyy Nauchno-Issledovatel'skiy Institut Stroitel'nogo i Dorozhnogo Mashinostroyeniya

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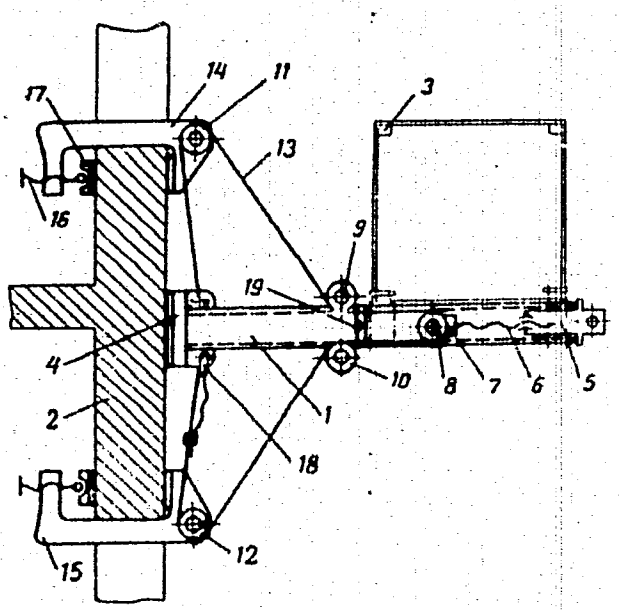

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19821458

1/2 033 UNCLASSIFIED PROCESSING DATE--27NOV70
TITLE--BRIEF REVIEW OF DEVELOPMENT OF MANNED SPACESHIPS -U-

AUTHOR--FEOKTISTOV, K.P.

COUNTRY OF INFO--USSR

SOURCE--ZEMLYA I VSELENNAYA, NO 2, 1970, PP 12-20

DATE PUBLISHED--------70

SUBJECT AREAS--SPACE TECHNOLOGY

TOPIC TAGS--MANNED SPACECRAFT, PHOTOGRAPH/(U)SOYUZ MANNED SPACECRAFT, (U)VOSKHOD MANNED SPACECRAFT, (U)VOSTOK MANNED SPACECRAFT

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--3009/0054 STEP NO--UR/0384/70/000/002/0012/0020

CIRC ACCESSION NO--AP0138920

UNCLASSIFIED

2/2 033 UNCLASSIFIED PROCESSING DATE--27NOV70

CIRC ACCESSION NO--AP0138920

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE BRIEF ARTICLE CITED BELOW REVIEWS THE DEVELOPMENT OF SOVIET MANNED SPACESHIPS FROM THE VERY BEGINNING. CONCISE DESCRIPTIONS OF THE "VOSTOK," "VOSKHOD" AND "SOYUZ" SHIPS ARE GIVEN. THE TREATMENT IS QUITE SUPERFICIAL. A NUMBER OF INTERSECTING PHOTOGRAPHS ACCOMPANY THE TEXT: THE ROCKET CARRIER OF THE "VOSTOK" IN A LAUNCHING POSITION, A DIAGRAM OF THE "VOSTOK" WITH 15 COMPONENTS IDENTIFIED AND THE DESCENT MODULE OF THE "VOSTOK" AFTER LANDING. THIS IA AN ABBREVIATED VERSION OF AN ARTICLE TO PUBLISHED IN RAZVITIYE RAKETNO-KOSMICHESKOY TEKHNIKI V SSSR (DEVELOPMENT OF ROCKET AND SPACE ENGINEERING IN THE USSR), TO BE EDITED BY ACADEMICIAN A. A. BLAGONRAVOV AND WHICH IS BEING PUBLISHED UNDER THE AUSPICES OF THE INSTITUTE OF THE HISTORY OF NATURAL SCIENCE AND TECHNOLOGY ACADEMY OF SCIENCES USSR.

UNCLASSIFIED

1/2 020 UNCLASSIFIED PROCESSING DATE--27NOV70

TITLE--POLAROGRAPHY OF HALOORGANIC COMPOUNDS. VIII. REDUCTION OF ISOMERIC 1,2,DIHALOETHYLENES -U-

AUTHOR-(02)-MARKOVA, I.G., FEOKTISTOV, L.G.

COUNTRY OF INFO--USSR

SOURCE--ZH. OBSHCH. KHIM. 1970, 40(4), 740-4

DATE PUBLISHED-------70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--POLAROGRAPHY, HALOGENATED ORGANIC COMPOUND, ETHYLENE, IR SPECTRUM, ISOMER, BROMINATED ORGANIC COMPOUND, IODINATED ORGANIC COMPOUND

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--3006/0819 STEP NO--UR/0079/70/040/004/0740/0744

CIRC ACCESSION NO--AP0134552

UNCLASSIFIED

2/2 020 UNCLASSIFIED PROCESSING DATE--27NOV70
CIRC ACCESSION NO--AP0134552
ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE FOLLOWING HALF WAVE POTENTIALS ARE REPORTED FOR THE REDN. OF THE INDICATED SUBSTANCES IN 50PERCENT ETOH AND H SUB2 O, RESP., IN ME SUB4 NBR ELECTROLYTES; TRANS-BRCH:CHBR MINUS 1.59 AND MINUS 1.56 V.; CIS-ISOMER MINUS 1.8 AND MINUS 1.75 V. THE FOLLOWING WERE RUN ONLY IN 50PERCENT ETOH: MIXED ISOMERS, 1ST WAVE MINUS 1.57 V AND 2ND WAVE MINUS 1.78 V; TRANS-ICH:CHI MINUS 0.46 V; TRANS-CHCL:CHI MINUS 1.18 V. IR SPECTRA OF THE SUBSTANCES ARE ALSO SHOWN. THE ELECTROREDN. OF GEOM. ISOMERS OF DIHALOETHYLENES IS THE SAME AND THE RATE OF REACTION OF THE TRANS ISOMER IS GREATER THAN THAT OF CIS OWING TO MORE RAPID CLEAVAGE OF THE HALOGEN IN THE TRANS POSITION. REPLACING ONE I ATOM BY CL DOES NOT ALTER THE ELECTRODE PROCESS BUT EVIDENTLY TENDS TO HINDER THE REDN. THE 1,2,CHCL:CHI WITH N PRIME15 SUBD 1.5830, PROBABLY HAS THE TRANS CONFIGURATION, RATHER THAN THE CIS ASSIGNED TO IT, ON THE BASIS OF ITS NMR AND OTHER SPECTRA.
FACILITY: VSES. NAUCH.-ISSLED. KHIM.-FARM. INST. IM. ORDZHONIKIDZE, MOSCOW, USSR.

UNCLASSIFIED

USSR

UDC 621.372.82.001.24

FEOKTISTOV, V. G.

"Calculating Extended Waveguide Systems"

Tr. Mosk. in-ta radiotekhn., elektron. i avtomatiki (Works of the Moscow Institute of Radio Engineering, Electronics and Automation), 1972, vyp.55, pp 42-49 (from RZh-Radiotekhnika, No 11, Nov 72, Abstract No 11 B88)

Translation: Joining method is used to determine the scattering matrix of the union of two regular waveguides. The obtained solution is used for solving particular problems associated with the falling of a quasi-H_{11} circular polarization wave on the boundary of two circular waveguides filled with longitudinally magnetized ferrite. It is also used for solving problems associated with the matrix of scattering of coupling units consisting of several unions and with the calculation of a multilink coaxial filter. Calculations are verified by experiment. Original article: two illustrations and three bibliographic entries. N.S.

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USSR UDC: 621.372.81

NIKOL'SKIY, V. V., FEOKTISTOV, V. G.

"Estimates of Upper and Lower Bounds for Problems of Diffraction and Radiation"

Tr. Mosk. in-ta radiotekhn., elektron. i avtomatiki (Works of the Moscow Institute of Radio Engineering, Electronics and Automation), 1970, vyp. 40, pp 50—60 (from RZh-Radiotekhnika, No 1, Jan 71, Abstract No 1B109)

Translation: The authors consider the use of variational methods for constructing universal algorithms in problems of diffraction and radiation inside and outside of waveguides. One illustration, bibliography of five titles. N. S.

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USSR

KUZNETSOV, O. M., POPOV, S. G., FEOKTISTOV, V. V.

"Discrete Vortices in a Planar Medium at $M_\infty<1$ and Unstable Boundary Layer at a Plate"

Moscow, Mekhanika Zhidosti i Gaza, No 5, Sep-Oct 70, pp 176-179

Abstract: Experiments in a wind tunnel qualitatively and quantitatively indicate the propagation of density waves above a plate at zero angle of attack with $M_\infty<1$; the oscillating frequencies of density in this area are identical to the frequency of discrete vortices formed in the wake of the plate. Studies were performed using a shadow device with parallel light beam with defocused diaphragm and a Schlieren interferometer.

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USSR

UDC 621.382.3

SYRKIN, L. N., FEOKTISTOVA, N. N.

"Effect of Localized Pressure on the Characteristics of Fiele-Effect Transistors"

Leningrad, Fizika i Tekhnika Poluprovodnikov, Vol 5, No 5, May 1971, pp 880-883

Abstract: A study was made of the effect of localized pressure on the volt-ampere characteristics of PT2 germanium field transistors with a p-n junction and an n-type diffusion channel. An experiment is described in which the pressure was applied by means of a corundum needle directly to the open surface of the channel perpendicular to the junction plane. The variation of the discharge current with constant voltage on the gate is determined in the first approximation by the piezoresistive effect in the semiconductor forming the channel, and with a constant gate current, the increase in the effective thickness of the channel as a result of varying the concentration of the minority carriers at the boundary of the p-n junction under the effect of mechanical stress. The measurements demonstrated that the second effect plays

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USSR

SYRKIN, L. N., et al., Fizika i Tekhnika Poluprovodnikov, Vol 5, No 5, May 1971, pp 880-883

the predominate role. The sensitivity of the investigated transistors to pressure in a variable signal is somewhat lower than for ordinary junction transistors. It is 0.01-0.3 microamps/dyne.

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1/2 015 UNCLASSIFIED PROCESSING DATE--02OCT70

TITLE--MOLECULAR MOTION IN CELLULOSE NITRATES STUDIED BY NUCLEAR MAGNETIC RESONANCE -U-

AUTHOR-(05)-KOSTOCHKO, A.V., CHERBORISOVA, L.YA., MAKLAKOV, A.I., MAKOVEYEVA, G.N., FEOKTISTOVA, O.B.

COUNTRY OF INFO--USSR

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TOPIC TAGS--CELLULOSE, NITRATE, NUCLEAR MAGNETIC RESONANCE, PLASTICIZER, PHTHALATE, ORGANIC PHOSPHATE, GLUCOSIDE, SPIN RELAXATION

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

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CIRC ACCESSION NO--AP0111508

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE MOL. MOTION IN CELLULOSE NITRATE (I) PLASTICIZED WITH 35-55PERCENT OF DI-BU PHTHALATE, TRICRESYL PHOSPHATE, OR GLYCEROL TRINITRATE WAS INVESTIGATED BY NMR SPECTRA AT MINUS 140 50 MINUS 20DEGREES. A PLOT OF 2ND MOMENT (DELTA H SUB2 PRIME2) VS. TEMP. FOR THE PLASTICIZED I SAMPLES INDICATED THAT DELTA H SUB2 PRIME2 WAS INVERSELY PROPORTIONAL TO TEMP. IN THE RANGE OF MINUS 10 TO PLUS 20DEGREES, PRESUMABLY DUE TO THE FLEXIBILITY OF THE PYRANOSE RING AND HINDERED MONTIONS ABOUT THE GLUCOSIDE BOND C,O,C. THE HIGH MAGNITUDE OF DELTA H SUB2 PRIME2 WAS ACCOUNTED FOR BY A HYPOTHESIS THAT THE CH SUB2 ONO SUB2 GROUP REVOLVES ABOUT THE RING AT MINUS 140DEGREES AT A FREQUENCY OF 10 PRIME4, WHICH WAS CONSISTENT WITH THE EXPTL. DATA. INCREASED PLASTICIZER CONTENT CAUSED A CONTRACTION IN THE NMR BAND AND AN INCREASE IN THE SPIN SPIN RELAXATION TIME (CHARACTERISTIC OF MOL. PLASTICIZATION). THE SPIN SPIN RELAXATION TIME FOR I PLASTICIZED WITH EQUAL AMTS. OF EACH OF THE 3 PLASTICIZERS WERE SIMILAR.

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USSR UDC 614.76:663.1

IZRAYLET, L. I., and FROKTISTOVA, R. P., Department of Hygiene and Occupational Diseases, Central Scientific Research Laboratory, Riga Medical Institute

"Justification for Health Protection Zones Around Some Enzyme-Producing Plants"

Moscow, Gigiyena i Sanitariya, No 6, 1970, pp 80-81

Translation: The development of the microbiological industry has enhanced the importance of industrial biological agents which, despite the introduction of advanced technology, mechanization and automation, are released into the atmosphere and pollute it. Standards for the content of injurious substances in the environment are set with special regard for their toxic properties. These methods are unacceptable for biological factors because the body may react to them even before the initial toxic manifestations become apparent. We have reference to the sensitizing effect of biological atmospheric pollutants and their influence on human immunobiological reactivity. It is essential, therefore, to ensure the complete safety of the people who live in the vicinity of microbiological enterprises which use live microorganisms as starting material.

We set out to substantiate the need for a protective zone around an enzyme-producing plant that uses the fungi Asp. oryzae and awamori as producers of enzyme preparations. We selected for this purpose a plant that produces about 1/6

USSR

IZRAYLET, L. I., et al, Gigiyena i Sanitariya, No 6, 1970, pp 80-81

600 metric tons of enzymes a year. It uses a less advanced method of growing fungi, the surface method which is fairly widespread in the technological process of obtaining enzymes. When in operation, such plants may pollute the air not only with chemical compounds (formalin, chlorine, and so forth) but with the mold spores.

We analyzed atmospheric air at a time of intensive activity in the plant. Since it is located in an area isolated from other sources of industrial effluents, we were able to relate any pollution in the area to this particular plant. The study was carried out within a radius of 1.5 k from the plant.

In a bacteriological examination of the air* 500 m from the plant, we cultured about 1,320 colonies. More than 500 m away, the amount of atmospheric pollution was negligible and at certain times of the day fungi could not be detected.

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*The analyses were made by the Republic Sanitary Epidemiological Station under the direction of N. K. Karpova.

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USSR

IZRAYLET, L. I., et al, Gigiyena i Sanitariya, No 6, 1970, pp 80-81

We were also interested in the health of the people living both in the zone where cultures (500 m) were constantly discharged into the air and in a radius of 1,000 m beyond. We examined three groups: (1) 28 workers in the plant; (2) 91 persons living within a radius of 1.5 km; (3) 19 workers in another plant, 2 to 2.5 km away from the enzyme-producing plant, who served as a control. These workers were not exposed to the same occupational hazards. All the groups were virtually identical in sex and age.

More than 75% of the workers in the enzyme-producing plant complained of fatigue, general weakness, pains in the joints, itchy rashes, intermittent cough, transient rhinitis, and so forth. All these phenomena could be linked to the allergenic effect of the enzymes. Those who lived near the plant also had allergic reactions (66.6%). Persons living 300 to 500 m from the plant (29.6% of those examined) presented similar complaints but to a lesser degree. Persons living 500 m further away did not have such complaints.

Data on anamnesis were confirmed by an objective examination: persons tested manifested an allergic rash, an asthmata-like condition, eosinophilia of the peripheral blood, rhinitis, and other allergic symptoms.

3/6

USSR

IZRAYLET, L. I., et al, Gigiyena i Sanitariya, No 6, 1970, pp 80-81

To study the effect of the fungi on the people's health, other than sensitization, we used immunobiological tests because the level of immunobiological reactivity reflects overall health. Shifts in immunobiological reactivity, according to the data obtained by many investigators, occur well before the first pronounced objective pathological changes become evident (V. K. Navrotskiy et al.; Ye. G. Moskalenko). Immunobiological tests are known to be a sensitive means of evaluating the effect of harmful factors on the body (A. D. Ado; O. G. Alekseyeva). We determined the phagocytic activity of neutrophils in peripheral blood and the bactericidal capacity of the skin and its deep microflora.

Individuals living within a radius of 500 m from the plant exhibited a shift in phagocytosis that was manifested by a distortion of the first phase of the process, the capacity of neutrophils to ingest microbes. These subjects also experienced a shift in the main index of phagocytosis, the phagocytic index, which characterizes the level of natural immunity. This index was 4.2±0.5 microbes per neutrophil counted (in the control group, 5.4±0.6 microbes per neutrophil counted). The phagocytic number, i.e., the number of microbes ingested by each phagocyte, decreased by 21.1%. The second stage of phagocytosis, intracellular digestion

4/5

USSR

IZRAYLET, L. I., et al, Gigiyena i Sanitariya, No 6, 1970, pp 80-81

(completion of the process) is the more important, for it establishes phagocytosis as a protective reaction of the body. The percent of microbes digested in the main group of residents was 66.7% compared with 70.3% in the control group. In other words, intracellular destruction of the ingested microbes was 5.6% less in persons living near the plant than in the control group.

At the same time, we observed an increase in those living near the plant in the total number of microorganisms on the skin (2.5 times above normal), as well as a shift in the qualitative composition of the microflora due to the appearance of biochemically active pathogenic strains of Staphylococci (three to four times above normal levels). However, the bactericidal capacity of the skin in this group remained within normal limits. The immunobiological state of those residing some distance from the plant was essentially the same as in the control. It is interesting to note that the sensitization and immunobiological tests became normal while the plant was undergoing major repairs, during a period of several months when no fungi were released into the air.

We discovered, therefore, that people living within a radius of 500 m from an enzyme-producing plant were affected by the fungi Asp. oryzae and awamori. Our data show that sensitization occurred along with a weakening of the body's defenses against infection.

5/6

USSR

IZRAYLET, L. I., et al, Gigiyena i Sanitariya, No 6, 1970, pp 80-81

Conclusions

1. The degree of sensitization and immunobiological state of the body may serve as a basis for establishing health protection zones around plants using fungi as raw material.

2. To protect against plants with an enzyme-producing capacity of up to 600 metric tons a year, the zone should be at least 500 m wide.

Acc. Nr:
AP0036812

PRIMARY SOURCE: Zhurnal Mikrobiologii, Epidemiologii, i Immunobiologii, 1970, Nr 1, pp 31-35

DYNAMICS OF DISCHARGE OF TYPHOID BACILLI IN CHRONIC CARRIERS IN DIFFERENT SEASONS OF THE YEAR AND ITS SIGNIFICANCE IN THE EPIDEMIOLOGY OF THE DISEASE

S. R. Khomik, Ya. M. Ferdinand, G. I. Skirda, N. S. Kovaleva, N. S. Solovey, K. I. Popova, I. P. Timoshkina, M. M. Shelkovich, B. A. Plyuro, Apeykina, M. D.

The feces of forty five carriers of typhoid bacillus were examined in different seasons of the year. The greatest number of bacilli was discharged from January to May (0.1 to 960 million per gm of feces were the number of bacilli found throughout the year). Therefore, the authors recommend examination of carriers to be carried out mainly during the first half of the year.

There was established no association between the seasonal distribution of the incidence of the disease and the intenisity of bacterial discharge.

D.M.

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TITLE--AMP AMINOHYDROLASE OF SKELETAL MUSCLES -U-

AUTHOR-(02)-FERDMAN, D.L., NECHIPORENKO, Z.YU.

COUNTRY OF INFO--USSR

SOURCE--UKRAYNS'KIY BIOKHIMICHNIY ZHURNAL, 1970, VOL 42, NR 2, PP 155-164

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SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--MUSCULOSKELETAL SYSTEM, MUSCLE PHYSIOLOGY, DOG, MYOCARDIUM, ENZYME ACTIVITY, HYDROLASE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

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CIRC ACCESSION NO--AP0106281

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. IT IS ESTABLISHED THAT DESAMINASE POSSESSING EXCEPTIONALLY HIGH ACTIVITY IN MUSCLES OF VERTEBRATES IS CONNECTED WITH MYOSIN AND DOES NOT RELEASE FROM IT EVEN BY MULTIPLY REPRECIPITATIONS. WITH ADDITION TO MYOSIN OF THE DOGS MYOCARDIUM, WHICH DOES NOT POSSESS THE DESAMINASE ACTIVITY, THE PREPARATION OF THE PURIFIED DESAMINASE OF THE SKELETAL MUSCLES THE RESISTANT COMPLEX IS FORMED, THE ULTRAVIOLET SPECTRUM OF MYOSIN-ABSORPTION IS CHANGED. MYOSIN BINDING DESAMINASE PRESERVES IT FROM THE THERMAL INACTIVATION AND INACTIVATING EFFECT OF ULTRAVIOLET RAYS. DESAMINASE IS FOUND IN ALL THE SUBCELLULAR ELEMENTS OF MUSCULAR FIBRILS HAVING ESPECIALLY HIGH ACTIVITY IN MICROSOMES. THE DATA CONCERNING THE STUDY OF KINETICS OF AMP DESAMINATION POINT TO ITS COOPERATIVE INTERACTION IN MICROSOMES WITH AMP AMINOHYDROLASE. THE SARCOLEMIC MEMBRANE POSSESSES THE DESAMINASE ACTIVITY WHICH PRESERVES AFTER ITS TREATMENT WITH PHOSPHOLIPASE C AS WELL BY TRITON X-100. A CONCLUSION MAY BE DRAWN THAT MANIFESTATION OF THE DESAMINASE ACTIVITY IN THE SARCOLEMIC MEMBRANE DOES NOT DEPEND ON THE PRESENCE OF PHOSPHOLIPIDS. BY MEANS OF DETERGENTS, TRITON X-100, DISOXYCHOLATE AND DODECILSULPHATE THE SARCOLEMIC MEMBRANE IS SEPARATED BY TWO FRACTIONS AND THE DESAMINASE ACTIVITY IS STUDIED IN THEM.

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UDC: 621.382.2

USSR

BOCHKAREVA, L. V., SIMASHKEVICH, A. V., and FERDMAN, N. A., V. I. Lenin Kishinev State University, Institute of Applied Physics

"Effect of Laser Excitation on the Photoelectrical Characteristics of ZnSe-ZnTe Heterojunctions"

Leningrad, Fizika i tekhnika poluprovodnikov, No 8, 1972, pp 1603-1604

Abstract: Results are given of experiments conducted by the authors for studying some of the photoelectrical characteristics of ZnSe-ZnTe heterojunctions under the excitation of a ruby laser beam with an energy of 1.76 ev. Such heterojunctions, in spite of their interesting faculty of emitting visible light when a current is put through them, have not undergone much study. The specimens were formed by mosaic monocrystalline ZnSe layers sputtered in a vacuum on ZnTe crystals in the (110) plane, with an aluminum contact fastened to the ZnSe and a gold one applied to the ZnTe, and were sensitive to light in the range of 0.4 to 0.65 μ in wavelength. Curves are plotted for the the emf of the specimen in this range

USSR UDC: 621.382.2

BOCHKAREVA, L. V., et al, Fizika i tekhnika poluprovodnikov, No 8, 1972, pp 1603-1604

with no laser excitation as a function of the wavelength, and for the same with laser excitation, and an interpretation is given. The authors of this brief communication thank V. A. Kovarskiy for his interest in the work and his comments on the results.

2/2

USSR

UDC: 621.373:530.145.6

DAMASKIN, I. A., KOVARSKIY, V. A., PYSHKIN, S. L., RADAUTSAN, S. I., FERDMAN, N. A., and TEZLEVAN, V. Ye.

"Luminescence of $CdIn_2S_4$ Monocrystals in the Excitation of Ruby Laser Light by Giant Pulses"

V sb. Issled. slozhn. poluprovodnikov (Investigating Complex Semiconductors--collection of works) Kishinev, 1970, pp 85-89 (from RZh-Radiotekhnika, No. 3, March 71, No. 3, Abstract No. 3D312)

Translation: The results are given of an investigation of $CdIn_2S_4$ monocrystals in two-photon optical excitation. With an excitation intensity of about $8 \cdot 10^{25}$ kV/cm^{2}sec, a narrow intense band at 660 nm is detected in the luminescence spectrum, whose half-width decreases substantially with increasing intensity of the excitation light. The detected phenomenon is interpreted as forced radiation in the so-called phononless line. Estimates of the luminescence spectrum half-width are obtained and a model of the detected phenomenon is proposed. Four illustrations, bibliography of eight. Author's abstract.

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1/2 046 UNCLASSIFIED PROCESSING DATE--20NOV70

TITLE--GENERATION OF A LONGITUDINAL ELECTRIC FIELD IN CDS BY INTENSE LASER IRRADIATION -U-

AUTHOR-(03)-VLADIMIROV, V.I., PYSHKIN, S.L., FERDMAN, N.A.

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TOPIC TAGS--CADMIUM SULFIDE, ELECTRIC FIELD, LASER RADIATION, PIEZOELECTRIC CRYSTAL, BOLTZMANN DISTRIBUTION

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